



Review

IMPERIAL MILITARY GEOGRAPHY

"General Characteristics of the Empire
in Relation to Defence"

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SIXTH EDITION

LONDON :
SIFTON PRAED & CO., LTD.
THE MAP HOUSE, 67 ST. JAMES'S STREET,
1930



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PREFACE

THIS book preserves as far as possible the same general outline as the earlier editions, and most stress is laid on the special features of geography which have a close bearing on Imperial Defence, viz., the resources of the various parts of the Empire in man power, material and transport, and the lines of communication by sea, land and air. Some sections which appeared in earlier editions have been deleted or curtailed in order to allow of a fuller discussion of the many general problems which face the British Commonwealth of Nations at the present time.

I wish to make grateful acknowledgment to Colonel R. H. Haining, D.S.O., and Captain E. C. Priestley who have read and criticised the proofs of this edition, and offered many valuable suggestions. I am also indebted to Lieut. H. R. Kirwood who corrected the proofs ; to reviewers of the earlier editions for points of view and suggestions which have been utilised as far as possible ; and to many officers serving in military stations abroad who have forwarded corrections to inaccuracies which appeared in previous editions.

My thanks are also due once again to Brigadier E. B. Mathew-Lannowe, C.M.G., D.S.O., Colonel E. G. L. Thurlow, D.S.O., Lieut.-Colonel S. C. Macrae, D.S.O., I.A., Lieut.-Colonel E. ff. W. Lascelles, C.B.E., Lieut.-Colonel L. Heath, C.I.E., M.C., I.A., Sir Algernon Aspinall, C.M.G., and many others who gave valuable help and criticism during the preparation of the earlier editions.

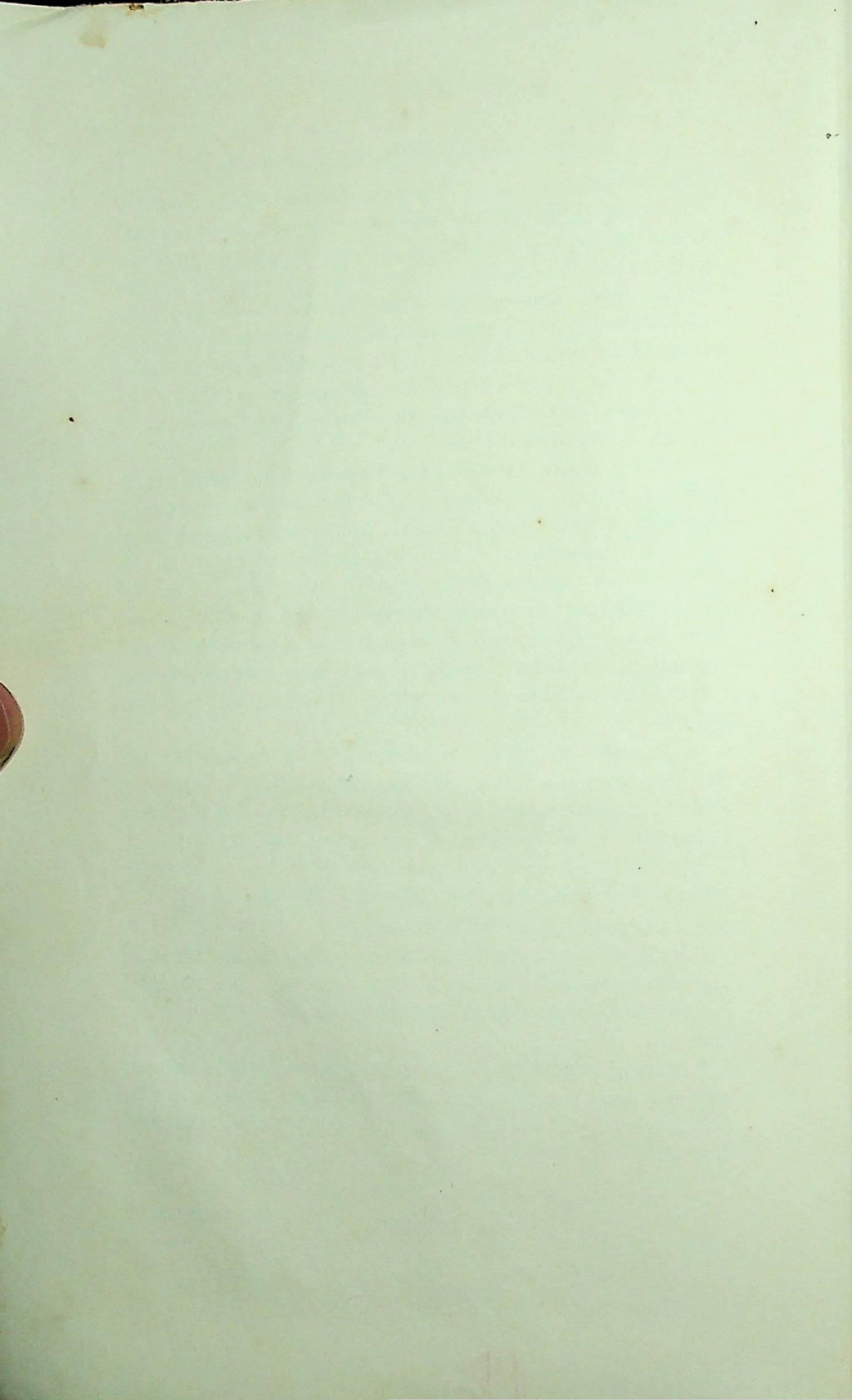
I have to thank the Marconi Company and the Imperial and International Communications Company for full and helpful notes with regard to recent developments of beam wireless.

I must acknowledge also constant and valuable assistance received from the publishers, Messrs. Sifton Praed and Co., Ltd., especially in the selection and preparation of maps and diagrams.

D.H.C.

COLCHESTER.

June, 1930.



CHAPTER I

THE FRONTIERS OF THE EMPIRE

CLIMATE and vegetation have no nationality. Their boundaries run irrespective of language and politics. They are like the air we breathe, part of the common store provided by nature for all mankind. Man, however, as an individual or in the aggregate, prefers to have his own share of these commodities carefully defined, and singly he has his own four walls and cabbage patch, while as a nation he establishes frontiers as zones of protection and separation. Through the centre of these frontiers he draws boundary lines to mark the extreme limit of his own and his neighbour's power. Where possible he endeavours to have his boundary lines drawn along frontier zones of low habitability such as deserts, swamps, ranges of mountains, rivers, the sea, or tropical forest and jungle, for thus are the walls of his house made strong and his defence limited to a few vital points. Nature does not, however, always provide such natural obstacles, or nations overrun them, and boundaries must then be drawn by artificial lines which enclose, as far as possible, the race or races of one nation or empire. Thus we have two important types of boundary illustrated in part by almost every country on the globe :—

- (1) The strategic frontier whose boundary line runs through a difficult, sparsely inhabited region, thus making use of natural obstacles as an aid to separation and defence.
- (2) The artificial boundary, fixed by lines of latitude or longitude or by joining points of reference, which may not have any natural adaptability for defence.

The British Empire presents many illustrations of both kinds. If we analyse its frontiers in these two classes very broadly, leaving their detailed consideration to subsequent chapters, we have the following :—

(a) *Natural Frontiers.*

(1) *The Sea* which bounds Great Britain, Australia and New Zealand, the British East and West Indies, the coast lines of India and further India, and of our possessions in Africa, and which forms 80 per cent. of the total boundaries of the British Empire.

(2) *Ranges of Mountains* like the Himalayas which make a natural barrier on the north of India for 3,000 miles; or like the Pusht-i-Kuh which separate Iraq from Persia.

(3) *Deserts*, like the Sahara in relation to the Sudan and Nigeria, or the Syrian Desert in relation to Palestine and Iraq.

(4) *Swamps*, like the Terai which separates India from Nepal, and *jungles* which render safe from attack the land boundaries of some of our equatorial possessions.

(5) *Rivers*, like the St. Lawrence which forms a portion of the line of separation between Canada and the United States.

(b) *Artificial Boundaries*, like the greater part of the American-Canadian boundary.

Let us now examine each of these types of physical features in more detail.

The Sea

The sea has been in the past the great divider and the great uniter. It has been a means of separation and a zone of defence for the British Isles, and, at the same time, it has enabled the people of these islands to move with ease to any part of the coast lines of the globe. By the exercise of sea power, it has allowed the British race to seize the initiative and land troops at undefended or weakly defended points on an enemy's coast, and to conduct successful campaigns at one and the same time in Europe, North America, the West Indies, West Africa and India. It has, in fact, made "the enemy's coast line the frontier of Great Britain."

In no way is our dependence on sea power more clearly evident than by noticing how greatly our Empire is composed of large peninsulas like India and South Africa, and smaller ones like the Malay States, Aden and Gibraltar, or islands

graduating in size from the island continent of Australia down to the smallest atolls of the Pacific.

Of all types of land frontier found in the world the great *Deserts* form the most evident areas of separation and protection. Thus the Sahara for centuries proved to be a barrier between the Negro races of the south and the Arab races on the Mediterranean. In the same way, the great civilisation of early Egypt was largely due to the protection given to the highly fertile strip of land round the Nile by the desert of Libya on the one side, and the Sinai desert on the other. The deserts of Arabia, too, have protected the tribes of the interior from foreign conquerors from the time of Babylon down to the present. The Thar Desert, east of the Indus, forms a natural barrier to an invader of India, and limits his path to-day, as it did for innumerable invaders in the past, to the Delhi bottle-neck between a desert on the one side and the Himalayas on the other. The battlefields of centuries that lie round Delhi are, in a sense, a tribute to the defensive power exercised by this desert, and the consequent confinement of the routes of invasion to this bottle-neck.

The protection afforded by a desert results from the absence of supplies, particularly water, which compels an army moving across it to keep to definite and easily anticipated routes. The Turkish attack of 1915 on the Suez Canal was an illustration. The Turks were confined to the choice of three lines of approach at most, and when once their decision was made, they could not shift the point of attack, owing to a complete lack of lateral communications.

In recent years, the development of engineering has tended to lessen this protective power. Railways, such as the line built for Lord Kitchener's advance to Khartoum in 1898 (500 miles), or the line along the coast of the Sinai Peninsula to Gaza, built during the Great War, enable an invading force to keep in touch with its base and obtain supplies. Pipe lines for the transmission of water or of fuel oil, motor roads and motor transport, the use of wire netting laid on the sand as a motor track, all lessen the difficulties of movement. Aircraft have made reconnaissance easier and more effective; yet Napoleon's view would still appear to hold good,

"of all obstacles which may cover the frontiers of empires, a desert like this (between Egypt and Syria) is incontestably the greatest. Mountains like the Alps take second rank, and rivers the third." Heat, confinement to one or a few definite lines of advance, the blocking of rails by sand, and the lack of adequate water supplies, make operations, even with modern engineering skill and in the face of an inferior retreating force, a matter of time and difficulty.

Mountains

The separative influence of a mountain system depends on its height, its width, its formation and the climate of the country. Ordinarily such systems are poor in supplies of food and thinly populated. There are few associations of family or ties of acquaintanceship between people living on the two sides. The rugged country between makes travel difficult, and prevents intercourse. Roads across ranges of even moderate height are frequently blocked by snow; railways are few and costly. In tropical, or semi-tropical countries, however, the converse to the above may be the case. Mountainous regions in such countries are often the parts most suitable to the white man, and so become—if not too rugged—centres of white population. Instances of this will be found in the development of the plateau regions of Kenya Colony and Tanganyika territory. Further, in some localities mountain ranges so far from being areas of separation may actually be areas of friction, as in the case of the ranges of the Balkans which are used for summer pasture when the pasturage of the plains has become exhausted.

As a help in defence against invasion the strength of a mountain frontier depends on a number of factors.

1. Whether the ranges lie across the direction of advance, thus forming a series of defensive walls, or parallel to the direction of advance, giving a great choice of routes, all of which must be watched.
2. The number and altitude of the passes.
3. The direction of the passes.
4. Whether the slope to the passes is easier on one side than the other.

The frequent penetration of the Alps is an illustration of these factors. Though their depth is about 70-150 miles,

there are many passes of comparatively low altitude. The slope is gentler on the French side than on the Italian ; approach is therefore easier from France towards Italy than from Italy towards France. Further, the semi-circular shape of the whole range leads to a converging of the routes across the mountains chiefly in the direction of Turin and Milan. Invading armies moving from France by different routes would therefore draw closer together and could hope to unite in Italy, while armies crossing from Italy into France by the various passes, would diverge and communication become increasingly difficult.

A mountain frontier, in which some of the outlets into the plains on both sides are in the hands of one nation, obviously gives an advantage to that country. For instance the old boundary of Austria formed a wedge (the Trentino) running into the plains of Lombardy ; Austria, therefore, possessed not merely the defensive strength of the mountains, but the actual gateway into the richest industrial part of Italy. The two sides of this wedge were protected by mountainous country. The apex was a comparatively narrow entrance, easily defended. The result of this situation was that when the Italians attacked in the region of the Isonzo river, the Austrians invariably counter-attacked at the Trentino, and, in effect, thereby threatened the Italian bases and lines of communication. Similarly, British control over the Afghan ends of the two most important transfrontier routes into Afghanistan, and the railways to Landi Khana and Chaman, are of great strategic value.

Fighting in mountainous regions is invariably hampered by difficulties of organisation, equipment and transport. Lateral communication is difficult. The wear and tear of men and machines are great, and the opportunities for surprise are largely increased. This last element has been lessened, but not removed, by the use of aircraft ; the rugged relief which makes a forced landing difficult, the cloudiness and variability of air currents over mountain ranges, still make them a partial barrier against air communication. Further, the use of mechanical transport and tanks is still limited to the valleys or easy gradients.

Swamps are probably even more difficult to cross than a *Swamps*

moderate range of mountains. Thus the Pripet marshes are a useful defensive barrier against a Russian invasion of central Poland. The Terai swamp between the Ganges Valley and Nepal has protected the independence of the latter country. The artificial swamp, created by the Allies in western Belgium, made movement and attack on that part of the front impossible. The intense bombardment in the Ypres salient and the resulting quagmire made attack difficult for either side, and rendered the use of tanks almost impossible in that area. In fact swamps would appear to be a greater obstacle to the use of tanks than are deserts, mountains or even rivers. They may, however, lose their protective power entirely in cold winters, and, when frozen over, become instead, on account of their level surface, a region of easy movement.

*Rivers as
Defensive
Boundaries*

In newer lands which are not very densely populated, rivers are fairly common as boundaries between states; thus the Rio Grande forms a portion of the boundary of the United States and Mexico, and the St. Lawrence part of the boundary between the United States and Canada. In Asia, too, there are a number of important illustrations. The Oxus forms part of the northern boundary of Afghanistan, the Khabur of Iraq, and the Mekong bounds Burma on the east for about 100 miles. Rivers possess the great advantage of being easily recognisable, and the expense of erecting boundary marks is thereby avoided. On the other hand, they may in some cases change their volume or their course, making an alteration of the boundary necessary, and even giving rise to political questions of the first magnitude.

A more serious objection is that rivers do not separate but are a means of communication and trade. The valley on both sides of the river tends to become a fertile unit. For instance, the so-called "Polish Corridor" is the valley of the Vistula and its tributaries, round which the Poles have built their state. The Rhine, too, does not separate people who speak French from those who speak German; on the contrary, the valley of the Rhine in Alsace-Lorraine is almost completely German in speech. Similarly the Oxus is not a dividing line between different races. Nations, in fact, tend to build themselves round rivers rather than to be limited by them.

As military obstacles they offer defensive lines which have been turned to good account by every great commander. Their use depends, as in the case of mountains, on whether they are parallel to the direction of attack or across it. It depends also on the number of tributaries, the possibility of navigation, bridges, fords, roads and rail communications. Where rivers lie across the direction of attack, as in the case of one which is the boundary between two states, they do not confer the same defensive strength to a country as a moderate range of mountains. Lateral communication by rail and road parallel to the river is probably good, as it tends to follow the valley, and forces can be quickly moved from one point to another to attempt a crossing. Armies are not confined, as in the case of mountains, to a few definite roads. Further the river may often be more easily controlled from high ground on one bank than from the other, as in the case of the Rhine, which between Basle and Strasburg is only about seven miles from the hills on the German side, but is 14 miles from the Vosges on the French side.

The value of a river is naturally great when it runs along or parallel to the line of advance, especially if it is navigable. It then relieves the congestion of traffic on the roads and railways. Illustrations of this can be found in the Sudan campaign, the Red River expedition, and the Mesopotamian campaign. This importance is naturally increased in countries, like the foregoing, where roads and railways did not exist.

Other factors, which are of importance in connection with the defensive strength of a river, are the width, depth, speed of current, height of banks, whether lined by marshes or passing through gorges, the bridges, ferries, communications leading to bridgeheads, etc. Climate, too, is a consideration, for the freezing of a river may destroy its defensive value. This is an important point in considering the St. Lawrence as a possible line of defence for Canada. Or a sudden spate in a monsoon land may bring down important strategic bridges, destroy roads and even overwhelm men and materials.

ARTIFICIAL BOUNDARIES

As already noticed, the boundaries of states may be drawn without reference to rivers, mountains or other natural

features. They may be lines of latitude or longitude, or merely lines of reference obtained by joining specified points. The following are important illustrations of the first type :—

- (a) The southern boundary of Canada from the Lake of the Woods to the Strait of Juan de Fuca, which is the line of latitude 49° N.
- (b) The southern boundary of Canada from the neighbourhood of Megantic to where the boundary meets the St. Lawrence. Latitude 45° N.
- (c) Part of the boundary between Canada and Alaska which is longitude 141° W.
- (d) The boundary of Dutch and British Guinea which is longitude 141° E.
- (e) The boundary of Egypt and the Sudan which is latitude 22° N.

The chief disadvantages of such boundary lines are that while they are easy to draw on the map, they frequently cut across valleys and ridges with a complete disregard of natural features, obstacles or lines of communication. In so far as they sometimes happen to pass through densely populated and cultivated country, they must be marked with extreme care and this is an exceedingly slow and expensive process. For instance, the portion of the United States-Canadian boundary which is Lat. 49° N took many years to mark out by clearings or cairns through the whole length of its 1,500 miles, and it is still a source of amusement and irritation to people living nearby, as it runs irrespective of all natural features.

*Lines of
Reference*

Boundaries formed by lines of reference are found in almost every country of the world, and indeed in every county of England. The boundary of France and Belgium, or of Eastern Canada and the State of Maine (U.S.A.) are familiar illustrations. They are not merely the most common type, but also the most potent cause of disputes, which not infrequently arise owing to careless or inaccurate references given in the treaty defining the boundary. The following are two illustrations of imperial importance :—

1.—*The Canada-Maine boundary.* The Treaty of Paris (1783), which left Nova Scotia to Great Britain, stated that

the boundary should be "drawn due North from the source of the St. Croix river to the Highlands, and thence between those rivers that empty themselves into the River St. Lawrence and those which fall into the Atlantic Ocean." The makers of the Treaty were evidently ignorant of the fact that it was uncertain which of several rivers was the St. Croix and that the whole country is a mass of highlands. The differences arising out of this unsatisfactory definition were not settled till the Ashburton Treaty of 1842, when the present boundary line was finally fixed, leaving to the United States the Maine salient.

2.—*The Canada-Alaska boundary.* Part of the boundary between Canada and Russian Alaska was defined as "running along the mountains parallel to the coast, or a line parallel to the windings of the coast, which shall never exceed the distance of 10 marine leagues therefrom." The Treaty omitted to state what was meant by the "coast." Was it a line along the outer promontories or along the heads of the deepest inlets? Also in cases where the deeper inlets reached more than 10 leagues from the ocean, should their heads belong to Russia or Canada? When Alaska was purchased by the United States, the question had to be settled by arbitration, which awarded to the States all the important points at issue and shut off the Yukon entirely, and British Columbia partly, from sea communication.

BUFFER STATES AND SPHERES OF INFLUENCE

The conception of a frontier as a place of military defence, has led to the development of buffer states, spheres of interest and influence, protected native states and neutral territories. All these have one function in common, *i.e.*, to make sudden and rapid invasion a practical impossibility.

A buffer state is an independent country whose indepen- *Buffer States*
dence and neutrality are generally guaranteed by other
surrounding states for purposes of mutual protection.
Illustrations of such are Switzerland, which was neutralised
by eight powers of Europe in 1815; Belgium, which was
neutralised by Austria, Prussia, Russia, France and
Great Britain in 1831 to serve as a buffer between Great
Britain and Germany, and between France and Germany;

and Luxembourg, which was neutralised by the same powers in 1867. The neutrality of Abyssinia, as a buffer state between French, British and Italian interests, was guaranteed by an agreement (1906) between the three powers, by which each promised to respect and maintain the integrity of Abyssinia and to refrain from intervention in her internal affairs. The integrity of Tibet as a buffer state between Russia, China and Great Britain was similarly guaranteed by the Convention of Peking in 1906, and the Anglo-Russian Convention of 1907.

The Anglo-Russian Convention of 1907 also settled the status of Afghanistan as a buffer state.¹ Russia recognised Afghanistan as outside her sphere of influence, and agreed that political relations should be conducted with that country through the British Government. At the same time, Great Britain bound herself not to interfere in the internal government of Afghanistan or to annex or occupy any portion of it, unless the Amir should fail to carry out obligations laid down in the Treaty. The same convention recognised the integrity of Persia, but marked out a Russian sphere of interest in the North and a British sphere in the South, separated from one another by a neutral zone in the centre. The narrow salient containing the upper reaches of the Oxus, called the Wakhan, which became part of Afghanistan in 1895, is a buffer zone, only a few miles wide, between the frontiers of Russia and India.

*Spheres of
Influence and
Interest*

Spheres of Influence and Interest are still other ways of ensuring the safety of a belt of ground beyond a frontier for the purpose of facilitating defence and trade. Illustrations of this method are to be found in the British sphere of influence in Arabia, and also in the Siamese territory, north of the Malay Peninsula.

*The Monroe
Doctrine and
its British
Counterpart*

The Monroe Doctrine, which will be described more fully in a subsequent chapter, is a declaration that the United States will regard as an unfriendly act any interference by a foreign power in the affairs of the American Continent, and

¹ The status of Afghanistan was altered by the Anglo-Afghan Treaty (1921) by which Afghanistan obtained full control over her own foreign affairs. The situation with regard to Persia is uncertain. The provisions with regard to Tibet were subsequently modified by the Anglo-Chinese Convention (Simla, 1913), and the present position is vague.

is therefore practically equivalent to a statement that all the American countries are within the sphere of influence of the United States. This Doctrine has a British counterpart in the reservation made by the British Government prior to signing the Kellogg Multilateral Treaty (1928), to the effect that there are certain areas in the world in which Great Britain cannot tolerate foreign interference because these areas are vital to the security of the Empire.

In some cases the adequate protection of an important position is obtained by purchasing or leasing ground necessary for defence, as in the case of Quetta and Nushki, which were purchased from the Khan of Kelat. Similarly, the belt of ground round Wei-hai-wei was leased to Great Britain by the Chinese Government, as was the New Territory beyond Kowloon on the mainland in the neighbourhood of Hong Kong, the purpose in both cases being to afford a region for the defence of these naval ports from land attack. Illustrations of neutral or international territory are furnished by the neutral zone between Gibraltar and Spain and the international control of Tangier.

*Leases—
Neutral or
International
Territory*

DEMILITARIZED REGIONS

A further expedient adopted in modern times to protect a frontier from sudden attack is its demilitarization and de-fortification by one or both of the countries concerned. The possibility of a secret mobilization of forces in the frontier region or of rapid and unexpected attack is thereby lessened.

*Demilitarized
Frontiers*

This method has been applied to a large number of frontiers, of which the following are a few important illustrations. Thus the Rush Bagot Treaty of 1817 between Great Britain and the United States limited the number of ships of war on the Great Lakes of North America to a negligible amount, and created a feeling of security from attack on that part of the frontier between Canada and the United States. In 1894, China and Great Britain agreed neither to construct nor to maintain within 10 English miles of their common frontier (Tibet, China and Burma) any fortification or permanent camp except such posts as are necessary for preserving peace and order in the frontier districts. Two more recent illustrations are of even greater importance. Germany agreed, by the

Treaty of Versailles in 1919, that all fortified works, fortresses and field works situated in German territory, to a distance eastwards of 50 kilometres from the Rhine, should be disarmed and dismantled, and that the construction of new fortifications in this region should be forbidden. Further, it was stipulated that the maintenance or assembly of armed forces, either permanently or temporarily, or military manœuvres of any kind, as well as the upkeep of permanent works for mobilization, should be forbidden in this area. Similarly, by the Lausanne Treaty (1923) a zone of 30 kilometres in width between Turkey in Europe and her two neighbours, Greece and Bulgaria, was demilitarized from the Aegean to the Black Sea.

*Demilitarized
Coastal
Regions*

Demilitarization has been applied also to regions which have shores on waterways of international importance, with the object of ensuring that these waterways will not be closed by hostile action in time of war. This method has been adopted at different times in the case of almost all the important naval gateways of the world. The most important illustration of its application is the Convention of 1888, signed by all the Powers of Europe, with regard to the Suez Canal. By this Convention the Canal was declared free and open, in peace or war, to every vessel of commerce or war without distinction of flag. The contracting parties agreed that no act of war nor efforts to obstruct the free navigation of the Canal should be committed in the Canal or its ports of access or within a radius of three marine miles from these ports. The disembarkation of troops, munitions or supplies, except in certain minor circumstances which are described, should not be permitted in the Canal region ; and it was agreed that the Powers should not keep any vessel of war in the waters of the Canal, including Lake Timsah and the Bitter Lakes.

Prior to the construction of the Panama Canal a similar arrangement was concluded between Great Britain and the United States by the Hay-Pauncefote Treaty of 1901, in which it was stated that the general principles governing navigation in the Suez Canal in peace or war should apply also to the Panama Canal.

Neither of these treaties envisaged the vital importance of the two canals to the two Powers, the Suez Canal to the British Empire and the Panama Canal to the United States ; and

subsequent years witnessed the spectacle of the Panama Canal being elaborately fortified ; of Turkish forces advancing towards the Suez Canal, to attempt to sever that neck of the British Empire, and of British troops occupying the banks of the Canal and British warships patrolling its waters.

Two other important illustrations require mention. The Convention of Madrid, signed by France and Spain in 1912, prohibited the construction of fortifications or strategical works of any kind on the part of the Moroccan coast facing the Straits of Gibraltar ; and this was later confirmed by the Convention with regard to the Tangier zone in 1923. In the same year (1923) the Powers who signed the Treaty of Lausanne declared that the Straits of Dardanelles, the Sea of Marmora and the Bosphorus should be free for transit and navigation by sea and air in time of peace or war to vessels of peace or war, provided that Turkey was a neutral, and this freedom of passage is guaranteed by Great Britain, France, Italy and Japan.

Perhaps the most interesting and certainly the most comprehensive attempt in history at limiting areas of fortification is the "Status Quo Area" defined in the Five Power Naval Treaty signed by the British Empire, the United States, France, Italy and Japan at Washington in 1922. This is of such importance that it will be described in detail in a subsequent chapter.

*The partial
demilitariza-
tion of
ocean areas.*

CHAPTER II

A GENERAL SURVEY OF IMPERIAL RESOURCES

THE chief object of this chapter is to answer briefly four questions :—

- (a) In what respects is the British Empire able, owing to a control of resources of raw materials, to exercise influence on the other countries of the world ?
- (b) In what respects is the British Empire, taken as one unit, independent, actually or potentially, of foreign sources of supply ?
- (c) What is the general position with regard to the sources of the raw materials which are used in Great Britain ?
- (d) What are the situations of the four other great naval powers with regard to the essential food-stuffs and raw materials ?

THE VALUE OF CONTROL OF SOURCES

It is hardly necessary to emphasize that a control of sources of essential foodstuffs and raw materials is of vital importance in time of war. Such control ensures to a country, in whose territory the sources are situated, supplies which cannot be cut off at their area of origin by internal action. It makes arrangements for a constant supply and for the necessary adjustments of credit more practicable than they generally are in cases where the supplies are controlled by neutral lands. This was experienced by ourselves during the war. Thus, the entire shipping and marketing of the Australian wheat crop from 1915 to 1918 were controlled by an Australian board, working in conjunction with a similar government body in London. During the same period all available supplies of beef, mutton, and lamb in Australia and New Zealand were secured by legislation in those Dominions for the use of the

United Kingdom and the Allied Powers ; and similar arrangements were made with regard to the entire clip of wool. It is obvious that measures so comprehensive as these would not have been possible unless the sources had been in British territory.

Further, the power of denying to neutrals supplies of those materials, of which the Empire is an important source is, in time of war, a valuable economic and strategic weapon. One illustration will suffice to prove this. At a critical period, when Sweden was acting as a forwarding agent for Germany, by importing large quantities of food stuffs such as bacon and margarine, and raw materials such as cotton, and immediately thereafter exporting these commodities to Germany, we were able to exercise pressure on her to stop this by a threat of withholding coal supplies which she urgently required.

Even when the control is not *physical*, in the sense that the sources are actually within our territories, but is merely *financial*, where the sources are in neutral countries but owned or financed by British capital, this control is of value. Provided the countries in which the sources lie are not hostile to us, it is likely that credit arrangements could be made with comparative ease and loans obtained on the security of our foreign investments ; and that supplies from such sources under British financial control would be more readily available to us than to others. This is of particular importance to us in view of our dependence at present on South American countries for a large percentage of our imports of beef and for some of our petroleum. British investments in South America amount to over £1,000 million, and British enterprise and management have played a very important part in the development of the Argentine beef trade, the Venezuelan oilfields and the whole network of South American railways. There are, therefore, close financial ties between Great Britain and these countries which, in time of war, would help to maintain our credit and ensure our supplies.

THE SPECIAL VALUE OF THE CONTROL OF AGRICULTURAL RESOURCES

Agricultural resources are the most permanent and essential form of wealth. The utilisation of minerals is equivalent to a

destruction of capital which cannot be replaced ; but agriculture provides an income permanent as long as climate, physical conditions and humanity remain unchanged. The position of the British Empire, as one of the chief potential food reservoirs for the white races of the world, is therefore of the greatest importance. At present our position with regard to a number of essential commodities is as follows :—

Commodity	Percentage of world's Production raised in British Empire (1927)			
	...	...	...	...
Wheat	...	...	...	23
Rice	...	...	...	52
Cattle	...	...	...	39
Sheep	...	...	...	36
Wool	...	...	...	45
Rubber	...	...	...	59

But this does not give a true picture of our future potentialities. A considerable part of the area of the world, suitable for cultivation in the future, is within the Empire. Only one-fifth of the potential farm lands of Canada, it is estimated, is being utilised ; less than one quarter of those in Australia is under cultivation ; and there are large areas in our tropical dependencies which could produce foodstuffs such as maize. The population of the world is increasing by about 15 to 20 million people per year, and must gradually tend to press more and more heavily upon the means of subsistence ; and the possession of great food producing lands will therefore become gradually more important and desirable to every country. In the future, a control of food supplies will therefore be an important economic weapon.

THE POSITION OF THE BRITISH EMPIRE WITH REGARD TO AGRICULTURAL RESOURCES

It is useful therefore to take stock of the agricultural position of the British Empire, and this can best be done briefly by a classification of agricultural resources into three categories.

- A. Those commodities of which the Empire has a surplus above its own requirements. These are instances in which foreign countries are in some degree dependent on us.

This class includes wheat, wool, mutton, lamb, rice and rubber

- B. Those commodities the supply of which within the Empire approximately balances Empire requirements.

The most important of these are oats, barley, oil seeds and timber.

- C. Those commodities, the supply of which within the Empire is not sufficient to meet Empire demands, and for which we are therefore partly dependent on external sources.

The most important of these are cotton, sugar and maize.

It must be emphasized however, that this classification refers only to the present time, and that the further development of the Empire lands will tend to produce an upward movement of the commodities in this table. Thus commodities such as those shown in Class B will probably move into Class A, while those in Class C may move into Class B. This is more clearly seen in the following brief notes on some of the most important commodities.

The British Empire produced, in 1927, 23 per cent. of the *Wheat* world's production of wheat, and had, regarding it as one unit, a surplus over its own requirements of about four million tons.

The chief exporting countries in order of importance are Canada, Australia and India and the chief importing country within the Empire is, of course, Great Britain.

In Canada, new areas for wheat growing, such as the Peace River country, are constantly being opened up for production, and new varieties of wheat, which can grow under colder conditions, are helping to extend its cultivation in more northern districts. In Victoria, South Australia and the south-west corner of Western Australia, wheat is one of the staple crops and in spite of a downward trend of prices, the acreage under cultivation is increasing. The Sukkur and Sutlej irrigation schemes in India will add about 10 million acres to the area suitable for wheat cultivation in India, though the rise in the standard of living in that country will probably keep step with the rise in production, and there may therefore be no greater surplus available for export.

In Great Britain the production of wheat is confined chiefly to East Anglia, where climate and soil combine to give more suitable conditions than elsewhere ; but the total production

averages less than 1,600,000 tons a year, or a little more than one-fifth of our annual requirements. We, in this island, are therefore dependent on overseas supply for about 42 weeks each year.

Rice

As wheat is the staple food of most of the white people of the world, so is rice for the inhabitants of the Monsoon lands of Asia. It requires the abundant moisture and high temperature associated with Monsoon lands, but is also grown in other regions of sufficient warmth and water supply, such as the Nile Delta and the coastal plain of British Guiana.

India (including Burma) produces more than 50 per cent. of the world's total production; and the exportable surplus of the Empire, which amounts almost to one million tons a year, comes chiefly from Burma.

Oats

The British Empire's requirements of oats are almost balanced by its production. The only country which imports large quantities is Great Britain, which depends on external supplies for about one-fifth of its needs each year; and though this quantity is chiefly imported from the United States at present, the opening of new lands in Canada must improve our position.

Barley

Canada is the greatest exporter of barley in the Empire, but other parts, notably India, Australia, Cyprus and Palestine, are now providing considerable quantities, and Empire requirements and supplies approximately balance.

Maize

Maize is a tropical cereal, but can be grown almost anywhere between Lat 50° N. and Lat 40° S. Its yield per acre is about three times that of wheat, and it has a wide variety of uses. It can be used as a food for man (Indian corn, cornflour, hominy); and to an even greater extent as a fattening food for cattle. Starch and alcohol, also, can be obtained from it.

The chief source of supply at present is the United States; and the Empire as a whole only produces about 60 per cent. of its requirements. India produces large quantities but has only a small surplus available for export. Recently, however, the development of maize production within the Empire has been accelerated, and the Union of South Africa, Kenya, Rhodesia and Tanganyika have had considerable and increasing amounts for export. There is every likelihood that a few

years hence the Empire may be self-supporting with regard to this important commodity.

The situation with regard to beef is rather curious. The *Beef* British Empire owns almost 40 per cent. of the total head of cattle in the world, yet in 1928 our imports into Great Britain of beef and mutton were as follows :—

Argentina	...	...	...	...	546,000 tons.
New Zealand	...	...	...	...	163,000 "
Australia...	...	...	...	...	78,000 "
Uruguay	...	...	...	...	59,000 "
United States	...	...	...	...	2,000 "
Other Countries	...	...	...	...	42,000 "
Total	...	...	...	...	890,000 "

This situation, by which the Argentine is our chief source of supply for imported beef, is due to a distinction between "chilled beef" and "frozen beef." The term "chilled beef" is applied to carcasses carried at a temperature of 28° Fah. ; whereas frozen beef is carried at a temperature of not more than 15° Fah. ; and beef from Australia and New Zealand must be carried at this latter temperature in order to keep it in good condition over the long journey. "Chilled beef" is, however, more palatable and nutritious. This difficulty is one which will probably be surmounted by scientific research.

Great Britain depends on external supplies for about 40 per cent. of its total requirements, *i.e.*, for about five months in the year ; but, if satisfactory methods are applied to its transportation this shortage may perhaps be supplied from within the Empire. Australia is the largest stock holding country in the Empire, but the Union of South Africa has shown the greatest increase within recent years, and Rhodesia and Kenya are also paying much attention to the raising of beef for the meat trade.

The British Empire owns 36 per cent. of the total number of *Mutton and Lamb* sheep in the world ; and the greatest exporting country is New Zealand, which exports from its famous Canterbury Plains in the South Island almost 150,000 tons a year of mutton and lamb, or about twice as much as the Argentine which is the next most important exporter.

Great Britain produces normally about 50 per cent. of the

mutton and lamb which it uses, the balance being imported from

New Zealand	..	..	..	49	per cent.
Argentina	..	..	..	27	" "
Australia	..	..	..	10	" "
Other countries	..	..	..	14	" "

but this table does not show the true state of affairs. The British Empire taken as a whole, when imports and exports are balanced, has a surplus for disposal.

Sugar

Sugar is derived chiefly from the juice of the sugar cane and the roots of certain varieties of beet. The chief sources of supply to the British Empire are Cuba, Mauritius, the British West Indies, Peru, and Java, British Guiana, South Africa, Australia, Kenya and the Fiji Islands. India, although a large producer, requires to import a considerable quantity. Taking the Empire as one unit the production is less than 70 per cent. of the demand. The growing of sugar beet in England, helped by a government subsidy, is being pursued with a considerable measure of success, but, on the other hand, the West Indian sugar plantations have been hard hit by the cheaper sugar manufactured from beet, and heavily subsidised by continental countries.

Wool

The British Empire produces about 45 per cent. of the wool of the world, of which more than half is produced in Australia. South Africa and New Zealand are also important sources.

Great Britain grows in this island roughly one-third of her requirements of this commodity; and the balance is chiefly imported from the Empire countries enumerated above.

The British Empire taken as one unit has a considerable balance for export.

Cotton

Raw cotton is one of the pillars of British trade, because it is the raw material for our cotton manufactured goods from Lancashire. It can be grown only in warm or semi-tropical regions and where there is sufficient rainfall. Such conditions are found in the low-lying parts of South Carolina, Texas, Georgia, Alabama and Mississippi, which supply two-thirds of the raw cotton used in Lancashire. It is one of the important crops in India, where it is grown chiefly on the western parts of the plain between the Indus and the Ganges,

and on the black soil of the Deccan plateau. The yield in India is, however, smaller than in the United States and the quality is coarser and less valuable. Indian cotton is, therefore, not much used by British manufacturers who prefer a longer "staple"; and the surplus available for export goes mainly to Japan, China and Germany.

Egypt and the Anglo-Egyptian Sudan are increasing in importance as cotton growing countries. Egypt is practically rainless, but the supply of Nile water is an admirable substitute, carrying alluvial soil over the land, and this, taken in conjunction with brilliant sunshine, makes Egyptian and Sudanese cotton quite equal to the best American. In Uganda the increase in production during recent years has been very notable; and smaller increases have been achieved in Tanganyika, Kenya, Nyasaland, Rhodesia, Nigeria. This development has been largely due to the researches and experimental work of the Empire Cotton Growing Corporation which receives a Government grant and a levy of 1d. per bale on imported cotton, from British cotton spinners.

The situation with regard to cotton is more precarious than that in regard to any other agricultural commodity. Omitting India and Egypt, the first because its short staple cotton is not suitable for manufacture in this country, and the second because it is not part of the British Empire, the total production in the Empire only represents about 10 per cent. of the demand. About two-thirds of the balance is obtained from the United States.

The rapid development of supplies within the Empire is very desirable in view of the gradually diminishing surplus available for export from the United States. More of the crop is required there for manufacture and, in any case, the depredations of an insect pest, the boll weevil, and difficulties in obtaining supplies of cheap labour to gather the crop are reducing output. The various projects referred to in later chapters, particularly with reference to irrigation schemes in the Sudan, are therefore of great importance.

The following table shows the important position of the British Empire with regard to the production of this commodity in the world (1928). *Rubber*

Malay States	286,000 tons
Dutch East Indies	204,000 "
Ceylon	59,000 "
South America	33,000 "
India	10,000 "
Sarawak	9,000 "
Other countries	17,000 "

Nearly 60 per cent. of the world's supply therefore is grown on British territory, and every nation which uses mechanical transport is in some degree dependent for its supplies on British sources. The Dutch East Indies and Brazil are the only important sources *outside* the British Empire.

Jute The Province of Bengal and the basin of the Lower Brahmaputra in British India, practically have a world monopoly in the production of jute.

THE POSITION WITH REGARD TO MINERAL RESOURCES

If the same method of classification is adopted with regard to minerals, as that adopted for agricultural commodities, the result would be as follows :—

- A. Asbestos, coal, chromium, cobalt, gold, manganese, mica, nickel, tin, titanium, vanadium and zinc.
- B. Tungsten, lead.
- C. Aluminium, copper, iron, platinum, petroleum, pyrites, nitrates, silver, sulphur, uranium.

Of these, coal and petroleum have a special significance as the chief sources of power and movement and will therefore be dealt with in subsequent sections. In the case of some of the other minerals mentioned above a future development of mineral sources known to exist may alter the category in which they appear ; and in one case—iron—the low category is due not to shortage of native supplies, but to a number of geographical factors.

Aluminium Aluminium has assumed a very important place among the commercial minerals of the world. Bauxite, which contains from 30 to 60 per cent. of aluminium oxide, is the most satisfactory source of supply, and at present Great Britain and Canada, who are the chief producers of the metal in the Empire, import large quantities of this ore from France and the United States. Cryolite, used also in producing the metal,

can only be obtained in large quantities from Greenland or Japan.

There are large deposits of bauxite in British Guiana, Australia and India ; and it is possible that production from these sources could be expanded to equal Empire demands. At present it falls far short.

Canada produces over 80 per cent. of the asbestos mined *Asbestos* in the world ; and the British Empire has a considerable surplus above its requirements.

Chromium is used for the alloy "chrome steel," a very hard *Chromium* steel used in munitions ; and also for rustless steel and chromium plating. The British Empire has large resources of this very important mineral in Rhodesia, and useful mines also near Quetta in Baluchistan. From these and various other sources over 50 per cent. of the world's supply of chrome are produced.

At present, the United States produces about 50 per cent. *Copper* of the world's supply of copper and Bolivia another 15 per cent. The British Empire is a large importer of copper from these countries, but there are prospects that this situation will improve. Canada has great resources and has almost doubled her output in the last sixteen years ; Australia has considerable quantities, and Northern Rhodesia may possibly be one of the world's principal sources of supply in the future.

The Empire normally imports about 5 million tons of iron *Iron Ore* ore more than it exports, this figure being chiefly accounted for by the quantities of high grade ore obtained by Great Britain from Spain, Norway and other foreign countries. At a pinch, however, Great Britain could fall back on the native ores for her whole requirements instead of importing from one-third to one-half ; and the Empire regarded as a unit could be self-supporting. The potential resources in many British countries are enormous, particularly in India, Newfoundland (which has some of the richest ore in the world and two of the largest mines), the Malay States, Australia and Nova Scotia.

The United States is the greatest producer of lead, but *Lead* owing to home requirements does not export as much as Australia or Canada. The imports and exports of this ore in the Empire approximately balance.

Manganese is a necessary constituent in making Ferro- *Manganese*

Manganese which is used in the manufacture of steel. It is therefore a vital commodity in peace and war. It is also used for the manufacture of chlorine, electric batteries, etc.

The British Empire has a large net export of this mineral. India alone could supply the needs of the whole Empire, and there are important sources also in Queensland, Canada, Newfoundland and the Sinai peninsula.

Nitrates

The Empire, in the past, has been dependent for its supplies of nitrates, for manures and also for explosives, on supplies of nitrate of soda from Chili and a more limited quantity of nitrate of potash from India. Now, however, synthetic nitrates are being prepared by Imperial Chemical Industries, Ltd., at Billingham in England; and it is no longer necessary to depend on external sources for Empire requirements.

Platinum

The Empire production of platinum is rapidly increasing. The mines at Sudbury, Ontario are expected in a few years' time to produce supplies much in excess of the Empire demand; smaller quantities are obtained in South Africa; and Australia and New Zealand, also, have sources which are, at present, practically untapped.

Nickel

Nickel is essential to the manufacture of munitions; and the Empire is fortunate therefore in producing almost 90 per cent. of the world's supply of this mineral, most of which comes from the mines at Sudbury in Southern Ontario.

Tin

Although the Empire production of tin ore is only 46 per cent. of the world's production the Empire production of the metal is over 80 per cent. This is chiefly due to large imports from the Dutch East Indies to Singapore, where the metal is refined, and which is a collecting centre for the neighbouring areas. The British Empire, taken as a whole, has a large surplus for export and indeed controls most of the tin supply of the world. The only foreign producer of great importance, apart from the Dutch East Indies, is Bolivia.

Titanium and Tungsten

These minerals are constituents in various processes of the steel industry. Tungsten, for instance, is employed in the manufacture of high grade steels.

There are ample supplies of both minerals in the Empire. The ores of tungsten are found in Burma, the Malay States, Australia, Rhodesia and even Great Britain.

Zinc

The Empire production of zinc is derived mainly from

Australia, Canada and India and is slightly in excess of requirements.

The British Empire produces more than 70 per cent. of the *Gold* annual output of gold in the world ; the chief source of supply being the Union of South Africa, though considerable and increasing quantities are now being obtained in Canada.

THE CONTROL OF COAL SUPPLIES

Coal is the chief foundation for industrial development. It is also the most important source of power for shipping. Even in this age of petroleum 60 per cent. of the shipping of the world uses coal as fuel while a large proportion of the remaining 40 per cent. can change from coal to oil or *vice versa* in accordance with the current prices of each. The possession of adequate coal resources is therefore essential to power and movement.

The secure position of the British Empire with regard to this commodity is clearly shown by the following table, in which the most important estimated reserves of coal in the world are tabulated in order of importance.

<i>Country.</i>	<i>Estimated Reserve.</i>	<i>Average annual Production.</i>
United States	$3,838 \times 10^9$ †	549 mill. tons.
Canada	1,234 „	20 „ „
China	995 „	20 „ „
Germany	423 „	150 „ „
United Kingdom	189 „	264 „ „
Siberia	173 „	— „ „
Australia	165 „	14 „ „

This table does not, however, reveal the unrivalled position which Great Britain holds as an exporter of coal. Our central situation relative to the world's chief lines of sea communication, the nearness of our coal fields to the seaports of Great Britain, their proximity to industrial centres in Europe, our possession of ports suitable for coaling purposes in every sea, the excellence of the steam coal produced from British mines and our ownership of about 35 per cent. of the world's steam and motor shipping, in which we can use coal as ballast on the outgoing journey, have all combined to make Great Britain the greatest exporter of this commodity in the world. Out of the 260 million tons mined each year we send abroad some 60 million tons in quantities varying from about 15 million

† $10^9 = 1,000,000,000$.

tons to France and 7 million tons each to Germany and Italy, down to the smaller amounts required by fuelling ports such as the Azores, Madeira, the Canary Islands, Gibraltar, Malta and Aden. Every country of Western Europe obtains a considerable quantity from us, and our exports go as far afield as the Argentine which takes 3 million tons and Brazil which takes 2 million tons. We are the only country in a position to supply the needs of shipping in the North Sea, the Eastern and the Southern parts of the Atlantic and in the Mediterranean. As 60 per cent. of the merchant shipping of the world still uses coal as fuel, and also in view of the probable use in the future of pulverised coal instead of oil in a large part of the remainder, these facts are of great importance. They enable us to control, during war, to some extent the movements of neutral shipping and to prevent neutrals from assisting our enemies.

In addition to the resources of this mineral in Great Britain, there are large and for the most part undeveloped coalfields in other regions of the Empire. The table quoted above shows the strength of the Canadian position in this respect. Much of the supply included in the estimate is, however, lignite which is not used for manufacturing purposes or for shipping. In Germany lignite is regarded as a very important part of the coal supply, and 150 million tons a year of it are mined and used in that country, and it appears likely that when more scientific methods of utilisation are adopted in Canada it may be a very valuable asset. South Africa has a flourishing coal export trade from the Natal mines, and Durban is now one of the most important coal ports of the Indian Ocean, from which this commodity is exported to ports such as Aden, Bombay and Calcutta. Australia also exports several million tons each year from the coal fields in New South Wales. The coal fields of India produce at present a supply approximately sufficient for home demands but the quality is not suitable for shipping.

GREAT BRITAIN, THE MANUFACTURING CENTRE

The importance of coal in the interior economy of Great Britain, for the maintenance of great industries and their accompanying centres of dense population, is clear from the

following brief description of the eight chief industrial regions of this country and from the accompanying map. It will be observed that seven of these regions are centred round great coal reserves.

- I. The Clyde-Forth Valley, with which may be associated *The industrial regions* the neighbouring Ayr Coalfield. The output of coal in this region is about 45,000,000 tons a year or rather more than one-sixth of the total produced in Great Britain. Iron ore is obtained in Lanark and Ayr, but in diminishing quantities, so that the bulk used for industries in this region is imported from Spain. The great shipbuilding works of the Clyde, the great iron and steel industries of Glasgow, Coatbridge, Hamilton and Falkirk; the engine and machine works at Kilmarnock, the cotton spinning of Glasgow and Paisley (one of the only compensations for a virulently damp climate), the linen, jute and oil cloth manufactures of Dundee and the dyeing and bleaching works of Perth are all associated with this coal region.
- II. The Northumberland and Durham coalfield with the associated Cleveland iron ore fields has the shipbuilding of the Tyne, and the locomotive and great engineering works of Newcastle.
- III. The Cumberland coalfield is of minor importance but supports the shipbuilding at Barrow, iron works at Workington, and exports coal to Lancashire.
- IV. The Lancashire coalfield supports the most densely populated part of Great Britain outside London, and the greatest industry of the whole country—the production of cotton manufactured goods. Within this area we must include Liverpool the second port in Great Britain (pop. 1,000,000); Manchester which by reason of the Manchester Ship Canal is now a port of great importance as well as being the centre of the British cotton industry; Wigan a coal and iron centre; the machine shops of Warrington; the cotton spinning of Oldham, Bolton, Preston, Ashton, Stockport and Rochdale; and the cotton weaving of Burnley, Blackburn, Bury and Preston. We may also include with it the North

Staffordshire coalfield to the south which makes an almost continuous belt of densely populated country northwards from Stafford to Preston and which supports the pottery centres, Stoke-upon-Trent, Burslem and Hanley, and the great railway junction and engineering centre of Crewe.

- V. The York, Derby and Nottingham coalfields which, with the Midland coalfields in Leicester and Warwickshire, form a long belt of dense population from Leeds in the north to Burton-on-Trent and Leicester in the south, produce more than one quarter of our total output of coal. Sheffield at the centre is a great iron and steel producing city; Doncaster and Derby have large engineering and locomotive works; the woollen and worsted industries of Bradford, Halifax, Huddersfield, Dewsbury, Batley, Wakefield, Barnsley; the iron, steel, leather and woollen manufactures of Leeds (500,000), the brewing industry of Burton-on-Trent, the woollens, hosiery, boots and shoes of Leicester, and the motor cars and bicycles of Coventry depend on the supply of cheap power afforded by the native coal supply of this region and the fact that, though placed in the centre of England, it is within easy reach of the ports of Hull, Grimsby and Liverpool.
- VI. Close to the southern part of V, and practically forming part of it, lies the South Staffordshire coalfield, which produces not merely coal but a considerable quantity of iron. It supports the great mining and metal works of Wolverhampton, Walsall, Wednesbury, Dudley, Birmingham, centres for small arms, engineering and bicycle works, and Kidderminster which makes carpets.
- VII. The South Wales coalfield on the northern coast of the Bristol Channel is the chief exporter of coal for shipping in the British Empire. Welsh coal from Cardiff finds its way to almost every port of the Atlantic and Mediterranean and in spite of high prices and competition from the United States still maintains its lead except where American sources have the advantage of much greater proximity. Swansea is the centre of large smelting and refining industries in which silver, lead, tin, zinc,

and nickel are smelted and refined, and tin plate (sheet iron coated with tin) is one of its leading industries. Iron ore from Spain is smelted at Newport and Merthyr Tydfil in the Taff Valley.

With this great industrial region may be grouped the smaller Bristol coalfield on the south side of the Bristol Channel, which supports the manufactures based on the West Indian and American trade of the City of Bristol, viz., tobacco manufacturing, cocoa and sugar refining.

VIII. The last great region of dense population is one based not on a local coal supply but on the natural advantages of the valley of the Thames as a means of communication, its proximity to the harbours and commercial centres of Western Europe and its history as the political centre of the country which has compelled all artificial routes to be driven towards it. London itself is placed within easy reach of the shortest sea routes by Dover, Folkestone and Newhaven to the Continent. It is on a great navigable inlet facing the corresponding Continental inlets with their ports of Antwerp and Rotterdam; and is most centrally placed with regard to all the industrial regions of Great Britain already described and those of France, Belgium and Holland as well. Thus a circle of 200 miles radius with London as centre will include the industrial densely populated regions, from IV to VIII inclusive, in Great Britain; Antwerp and Brussels in Belgium; Lille and the most highly industrialised part of Northern France (only just missing Paris); and all the important ports of southern England and northern France. If we lengthen our radius to 400 miles (one day's travel by land or sea, or the effective non-stop radius of an aeroplane) our circle will now include all the industrial regions of Great Britain and Ireland, every port of importance in our islands, all Belgium and Holland, the great metallurgical centres of the Ruhr, all the industries of France except those round the Valley of the Rhone, and the entrance to every important French port on the English Channel and the Atlantic. This proximity of London to the continental centres makes it the clearing house for the bulk of our trade, but as we shall see later

(Chapter VIII) confers on it a liability to attack by air, which also applies in a diminishing degree to the other industrial regions of Great Britain as we move from south to north.

While these industrial regions make it possible for Great Britain to support a great density of population, the fisheries of the continental shelf, particularly of the Dogger Bank, which employ directly 70,000 men at sea, and indirectly give trade to shipbuilding yards, engineering works, ports and docks, and provide a reserve of skilled seamen for our mercantile marine, must not be forgotten. Nor must it be forgotten that the agricultural regions include nearly 15,000,000 acres of grazing land, more than 16 million acres of permanent pasture and 14,000,000 acres of arable land, producing stock, wheat, etc., to the value annually of about £300,000,000, and employing directly about 5,000,000 people.

It is evident, however, that Great Britain is not, and cannot be, self-supporting in the matter of food supplies. In a temperate climate, it is estimated, the produce of $2\frac{1}{2}$ acres is required for the sustenance of each human being of the white races. A simple calculation will show that even if we ploughed up Trafalgar Square and sowed potatoes in Piccadilly Circus and utilised every square foot of this country for cultivation, its total area of 60 million acres could only support 24 million people at the most, or about one half of the present number of inhabitants. This dependence on external supplies is indicated clearly by the following table which includes not merely a few vital foodstuffs, but also some of the essentials of industry.

<i>Commodity.</i>	<i>Quantity produced in Great Britain (1927).</i>	<i>Balance of Imports over exports (1927).</i>
Wheat	1,500,000 metric tons	6,000,000 metric tons.
Beef	850,000. "	1,500,000 "
Iron Ore	11,000,000 "	6,000,000* "
Cotton	nil	660,000 "
Wool	53,000 "	225,000 "
Rubber	nil	600,000 "
Petroleum	nil	8,500,000 "

*1923-1924. Later years not taken as there was an unusual drop in imports owing to depression in iron and steel trades.

The more important conclusions from this table are as follows: We produce in Great Britain only ten or eleven weeks

supply of wheat in a year ; about seven months supply of beef ; and about two to three months supply of wool. Our iron and steel trades obtain the equivalent in mineral content of half their ore from abroad. The Lancashire cotton mills are absolutely dependent on supplies of raw cotton from overseas. Every gallon of petroleum is imported. Practically, no minerals, except coal and iron, are mined in Great Britain in commercial quantities. In fact we depend each year, on the average, on sea communications for over 19 million tons of foodstuffs, and for over 27 million tons of raw materials for our industries. The necessity for adequate shipping resources to carry this tonnage, and for sufficient sea power to protect its movement, is therefore obvious.

THE CONTROL OF SHIPPING RESOURCES

Neither physical nor financial control of sources is of strategic value in a widely dispersed Empire in which no part is self-supporting by itself, unless these types of control are accompanied by sea power and shipping. Maritime power is a combination of these two factors. A nation with a world wide trade but without a Navy capable of defending it would be living in a state of dependence on the good will of other countries. A nation, on the other hand, which possesses a great Navy but has little shipping lacks the immense reserve of specialized industries, technical skill and man power associated with a large mercantile marine. It therefore has not got the capacity for a rapid expansion of sea power in time of war.

The outstanding position of the British Empire, and particularly of Great Britain, in shipping tonnage, is evident from the following table.

GROSS TONNAGE OF STEAM AND MOTOR SHIPPING

<i>Country.</i>	1914.	1929.
Great Britain and Ireland ...	18,892,000	20,046,000
British Dominions ...	1,632,000	2,795,000
United States (Sea) ...	2,027,000	11,036,000
(Lake) ...	2,260,000	2,451,000
Japan ...	1,708,000	4,187,000
Germany ...	5,135,000	5,058,000
France... ..	1,922,000	3,303,000
Norway ...	1,957,000	3,218,000
Italy ...	1,430,000	3,215,000
Holland ...	1,472,000	2,932,000
Other Countries ...	6,969,000	9,167,000
Total ...	45,404,000	66,408,000

The British Empire therefore owns to-day about 35 per cent. of the world's total tonnage. In 1914 our preponderance was greater, British tonnage representing about 45 per cent. of the whole, but the remarkable increase during the war in American tonnage and the smaller increase in that of Japan, France, Italy and Holland have diminished our lead. It is interesting to notice, however, that our position as the chief shipbuilding power has not seriously decreased in spite of the growth of large mercantile marines in other countries. In 1913 we built in Great Britain about 59 per cent. of the total output of shipping in the world for that year; in 1929 we built 55 per cent.

Our unique position in regard to shipping is of value to us in various ways. The payment to Great Britain for shipping services and the facilities of banking, insurance, etc., connected with sea transportation forms a large part of the "invisible exports" which total in all about £500 millions a year, and helps to balance our national account of imports and exports, and thereby maintain our credit abroad.

In time of war, our ownership of 35 per cent. of the world's shipping enables us to exercise a supervision over the cargoes carried and routes taken by a large proportion of the world's shipping. It also provides us with a valuable economic weapon. Most of the countries of the world are dependent in some measure on British shipping, and, in time of war, this dependence does not immediately cease. A threat, therefore, of a withdrawal of our shipping services from a country so situated is a powerful instrument in political discussion.

A COMPARISON WITH OTHER COUNTRIES

Strength and weakness in supplies are relative terms which can only be used satisfactorily by comparison with other countries. Tables are therefore given at the end of this chapter to illustrate the degree of dependence of the other Naval Powers on overseas sources of supply for a few vital commodities. It must be insisted that these tables only deal with a few of these commodities and that there are many others, such as the essential alloys in the steel trades, which are "pivotal," but cannot be included owing to considerations of space. The tables serve to illustrate very clearly, however,

three facts with regard to Great Britain and the Empire.

- (1) Our dependence in Great Britain on overseas supplies for most of the raw materials used in industry.
- (2) Our dependence on overseas supplies of food for the people of Great Britain.
- (3) The dependence of the British Empire as a whole on foreign sources for a number of vital commodities, the chief of which are cotton and petroleum.

France has similar weaknesses though different in degree. *France*
With 1·6 acres of arable land *per capita* she is not entirely self-supporting and must import about 5 million tons of food each year. Her coal supply is inadequate, and she depends on external sources (chiefly on Great Britain) for one-third of her total requirements of this essential commodity. Like Great Britain, she obtains from overseas the great bulk of the cotton, silk, wool, oil seeds, rubber, petroleum, copper, tin, manganese and a host of other substances which she requires in her industries. Her imports of raw materials (including 15 million tons of coal) amount to 40 million tons, are mostly shipborne and come from sources mainly outside the Mediterranean.

Italy, with only ·9 acres of arable land *per capita*, is more *Italy*
dependent than France on external food supplies, and has therefore been compelled to import a large quantity of food-stuffs each year. She has practically no coal and obtains normally from 7 to 10 million tons a year from Great Britain. She is singularly deficient in minerals, except sulphur, zinc, and mercury, and must import her requirements from other countries. The basic commercial materials, cotton, wool and rubber, are imported. Like France, her sources of supply for all these imports lie chiefly outside the Mediterranean Sea.

Japan has less than ·3 acres of arable land *per capita* and is *Japan*
compelled to import a great and increasing quantity of rice, wheat, beans, peas, etc., chiefly from Manchuria. She is also largely dependent on foreign countries for the raw materials of industry. Cotton from India, wool from Australia, petroleum from the United States, Mexico and the Dutch East Indies, iron and coal from China, and tin and rubber from the

Malay peninsula are some of the vital commodities which she must obtain from abroad. She is fortunate in the respect that the essential food imports and also the coal and iron can be obtained by a short and well-guarded line of sea communication.

The United States

The United States is fortunate in being self-supporting in all important food supplies except meat, sugar and coffee. Whether home supplies of other foodstuffs can keep pace with the growth of population is, however, open to question. With regard to raw materials for industries, it imports large amounts of wool, timber, hides and skins and is absolutely dependent on external sources for rubber. It is the world's chief producer of coal, iron, copper, lead, zinc, silver, petroleum, phosphates and salt, but is dependent on external sources for manganese, nickel and tin. The degree of dependence on long lines of sea communication is, however, lessened by the fact that most of the commodities which it lacks could be supplied from some part of the American continent. Thus nickel from Canada, tin from Bolivia, hides and skins and wool from the Argentine, sugar from the West Indies and rubber from Brazil could be used to meet its needs without going further afield.

The British Empire

The British Empire possesses sources of strength unshared to any great degree by other countries. First, it has a predominant position with regard to wheat, wool, cattle, sheep, tin, rubber, gold, nickel, and manganese which would enable it to handicap an enemy or influence a neutral. Secondly, our ownership of 35 per cent. of the steam and motor shipping of the world allows us to supply our own needs, carry for other countries and maintain a large reserve of technical resources and skilled manpower for our Navy. Thirdly, our financial control of sources in many foreign lands assists us in making arrangements for supplies and credit in time of war. And finally, the predominance of the British Empire in the coal bunkering trade of the Mediterranean, the North Sea, the South Atlantic and the Indian Ocean, combined with our ownership of many coaling ports in these seas, enables us to supervise and control to some extent, during war, the movements and cargo of neutral shipping.

A mathematical comparison of the respective naval res-

possibilities of the Great Powers must necessarily leave out of account many important factors which are not susceptible of representation by figures. Nevertheless, a comparison, based on some of the measurable factors, is extremely suggestive. One such calculation was made by the French Naval Committee in 1929, on the assumption that naval responsibilities and obligations could be measured approximately by statistical comparisons of the following:—(a) Length of coastlines, (b) Area of territory, (c) Length of sea communications, (d) Sea borne traffic, (e) External trade. On this basis, taking Italy as one, they calculated the needs of the other Powers to be : Japan 1·6 ; France, 3 ; United States, 4·2 ; and the British Empire, 10.

*Statistical
Comparisons
of Naval
responsi-
bilities*

The first two factors chosen, unless modified by climatic limitations, appear to the present writer liable to give extremely fallacious results, as they would greatly tend to exaggerate the naval responsibilities of a land like Russia. A simpler comparison, based on (a) World trade, (b) Shipping and (c) Mileage of sea communications with important Dominions and colonies, gives results which are very suggestive, and are as reliable as such statistical comparisons can be :—

	Percentage of world's trade (1927).	Italy represented by one.	Percentage of world's Shipping.	Italy represented by one.	Mileage of vital sea communi- cations.*	Italy represented by one.
British Empire	28·6	10	34·8	7·2	36,000	12
U.S.A.	13·65	4·7	20·0	4·2	9,000	3
France	6·16	2·1	4·9	1	18,000	6
Japan	2·81	1	6·3	1·3	4000	1·33
Italy	2·88	1	4·8	1	3,000	1

Measured by these three responsibilities the ratio is Italy 1 ; Japan 1·2 ; France 3 ; U.S.A. 4 ; and the British Empire 9·7.

*These mileages of vital sea communications are the distances from the Home Country to important territories overseas. Inter-colonial distances are not included nor are the distances to the smaller colonies and possessions

TABLE I.—Degree of Dependence on Imports of Raw Materials
Excess of Exports over Imports shown + (1927). Excess of Imports over Exports shown — (1927)
Metric tons '000's omitted

	Great Britain	Canada	Australia	Union of S. Africa	New Zealand	India	United States	France	Italy	Japan
Coal	...	+69,700	-16,000	+800	+1,200	+400	+19,000	-20,000	-14,000	-500
Petroleum...	...	-8,700	-4,300	-1,300	-300	-1,000	+10,300	-2,000	-1,000	-1,200
Iron Ore	...	-6,000	-1,400				+1,700	+13,600	-100	-900
Manganese Ore	...	-200				+700	-300	-700	-50	-100
Copper Ore	...	-40	+30				+80	-6	-9	
Lead Ore	...		+6				+40	-40	+10	
Zinc Ore	...	-100	+20				+40	-200	+170	+6
Aluminium Ore	...	-70	-100				+200	+300		+60
Iron and Steel and products	...	+200	-700	-500	-300	-150	+1,500	+5,000	-1,000	-1,300
Copper	...	-100	+10	+1	+7		+200	-60	-70	-10
Lead	...	-270	+110	+130	-2	-3	+60	-50	-15	-60
Zinc	...	-150	+50	+30	-2		+45	-30	-15	-30
Aluminium	...		+20	-1		-8	-20	+8	-3	-6
Nickel	...		+14				-4	-2		
Wheat and flour	...	-6,000	+8,100	2,500	-150	-30	+5,400	-2,200	-2,300	-400
Barley	...	-800	+600	+50		+2	+800	=50	-20	
Maize	...	-2,000	-400	-30	+200	-3	+200	-800	-400	
Oats	...	-300	+60	-1		+12	+150	-50	-120	
Rice	...	-100	-40	-20		-3	+80	-160	+250	-600
Meats	...	-1,600	+50	+100	+5	+170	+100	-100	-60	-2
Cattle (head 000's)	...	-600	+300	+10	-1		-400	-40	-90	-0
Cotton	...	-660	-70	-1	+2	+20	+2,100	-300	-200	-770
Rubber	...	-600	-30			+10	-400	-40	-10	-20

TABLE II.—Control of Sources

Comparison between the British Empire, the United States,
France, Italy and Japan

The figures given are percentages of the world's production
in 1927

			British Empire	U.S.A.	France.	Italy.	Japan.
Wheat	...	...	23	21	6.5	4.6	—
Oats...	...	...	16	26	8	—	—
Barley	...	...	18	16	3	—	5
Rice	...	...	52	—	7	4	13
Cattle (in existence)			39	10	4	2	—
Sheep			36	7	5	1.5	—
Wool	...	...	45	11	1.5	2	—
Rubber	...	...	59	—	—	—	—
Cotton	...	...	29	56	—	—	—
Coal	...	...	26	43	4	—	2.4
Iron Ore	...	...	9	35	25	—	—
Copper Ore	...	...	7	55	—	—	1
Tin Ore	...	...	46	—	—	—	—
Nickel Ore	...	...	88	—	—	—	—
Asbestos	...	...	90	—	—	—	—
Petroleum	...	...	1.5	72	—	—	—

CHAPTER III

PETROLEUM RESOURCES OF THE EMPIRE

PROBABLY the most remarkable discovery of the twentieth century has been the internal combustion engine with the consequent development of aircraft, and the general mechanisation of transport. These developments have inevitably made the possession of petroleum products a necessity to all nations for war on land and in the air ; and, at the same time, the rapid change from the use of coal to oil for fuel in naval and mercantile vessels has made it equally essential for war on the sea. The vast range of petroleum products such as fuel oil, petrol, the lubricating oils and greases, kerosene, paraffin wax, etc., has become necessary to the prosperity and security of nations. Without these, land, sea and air forces, shipping, and a great deal of the civilian land transport would be immobile, and any serious restriction in the supply in time of war would have immediate and probably vital results. The situation of the chief world sources of supply, their availability in war, the protection of the movement of oil to points where it is required and the development of possible alternatives are therefore all matters of the utmost strategic importance.

At the present time the chief oil producing areas in the world are as follows :—

<i>Country.</i>	<i>Millions of Barrels. (1928).</i>	<i>Percentage of World's total production (1928).</i>
U.S.A.	902	68·2
Venezuela	106	8
Russia	88	6·7
Mexico.. ..	50	3·8
Persia	42	3·2
Rumania	31	2·3

<i>Country.</i>	<i>Millions of Barrels. (1928).</i>	<i>Percentage of World's total production (1928).</i>
Dutch East Indies ..	29	2·2
Colombia	20	1·5
Peru	12	0·9
British India ..	8	0·6
Trinidad	8	0·6
Sarawak	5	0·1
Egypt	2	0·1

Less than 6 per cent. of the world's total production is from the British Empire, including fields like the Anglo-Persian oilfields which are under British control. This represents about 80,000,000 barrels per annum, a figure less than the actual requirements of Great Britain alone, and, if we omit the Persian oilfields as not being in a strict sense within the Empire, the figure is reduced still further to less than 2 per cent. These figures of course take no account of foreign oilfields in which British enterprise and capital are interested. For instance, British firms and shareholders have very large financial interests in the oilfields of Mexico, Venezuela, Eastern Galicia, and Rumania, and it is unlikely that, in the event of a war, all these sources would be denied to us at the same time. But the position is obviously unsatisfactory. Over 60 per cent. of the oil used in Great Britain at present comes from the United States and Mexico, and we are therefore in a condition of extreme dependence on foreign countries for a commodity which is vital to our security.

That being the case, the use of oil for fuelling in the British Navy and in 40 per cent. of the Mercantile Marine requires some explanation, particularly in view of the following facts :—

*Oil versus
Coal in the
Navy and
Mercantile
Marine*

(1) Our preponderance of the carrying trade of the world in the nineteenth and twentieth centuries has been achieved largely by means of our coal resources. Outgoing ships from Great Britain which might otherwise go part filled or in ballast, have been able to take cargoes of coal to regions where it is required, bringing back other cargoes in exchange. Vessels have consequently been earning to full capacity both ways, and freight charges have been correspondingly reduced.

(2) The possession of many important coaling stations along

the main trade routes of the world, taken in conjunction with our coal resources, has made the British Empire the chief source of fuel supply for the ships of other nations. Incidentally, the transport of coal to these various coal bunkering ports is itself of great commercial importance to the British shipping employed, the mines in Great Britain and the ports of call concerned.

(3) Our supplies of coal are ample for our requirements and are situated in Great Britain where they can be most easily guarded, whereas our oil supply is largely from sources outside the Empire, and even those fields which are within it lie in regions such as Burma and Borneo whose security in time of war might possibly be threatened.

The explanation for the change is that the advantages of oil as a source of power, particularly in the case of the Navy, are overwhelming.

Disadvantages of Coal

Coal is a commodity difficult to load on ships even where special facilities exist for the purpose. In time of war the process of taking on board a capital ship some 2,000 tons of coal every fortnight would occupy many hours and cause considerable physical strain to a large part of the crew. This might have serious consequences when time and absolute physical fitness are essentials. In smaller craft such as destroyers, the disadvantages of coal are even more obvious. Such vessels must be always ready to leap from half to full speed at a moment's notice. Their fires must therefore be constantly in a condition to develop full power, and this means, if coal is used, a great expenditure of fuel, choked furnaces, continual dirt, and unnecessary strain on the personnel.

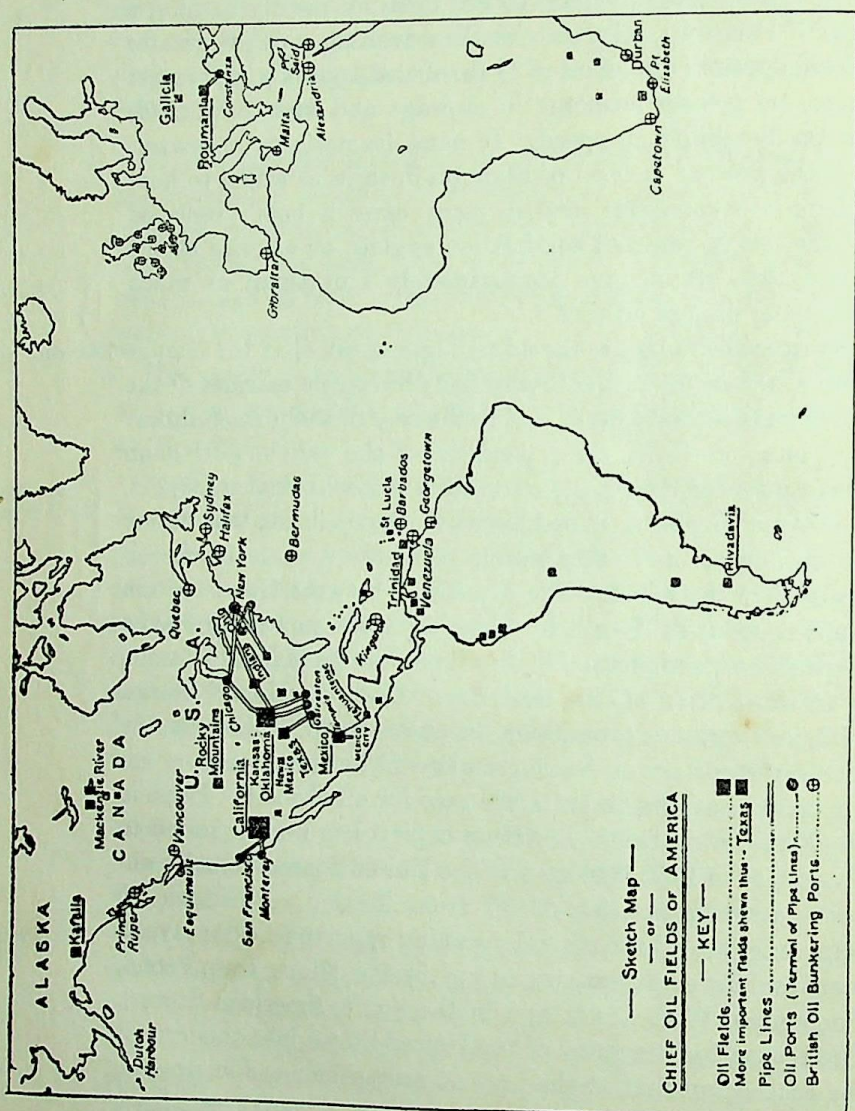
Advantages of Oil

Oil, on the other hand, gives greater speed than corresponding amounts of coal, and the radius of action of a ship burning oil is greater by 40 per cent. than that of a similar ship burning coal. Oil can be stowed in parts of a ship where it would be quite impracticable to stow coal. Refuelling, instead of being a tedious and difficult operation merely entails connecting one or more hoses, and pumping oil, while the majority of the personnel can obtain a much needed rest during the short time the ship is in harbour. Further, the last ton of oil fuel can be fed to the furnaces, whereas trimming coal

from the more distant bunkers often requires additional labour taken from their own proper duties for the purpose. Flexibility of speed, too, is more easily obtained by the use of oil. Fires can be made to blaze to full force by merely turning a tap. To sum up, oil possesses the advantages of (a) greater calorific power (1 lb. of oil = $1\frac{1}{2}$ lb. of coal approx.), (b) greater range, (c) greater economy in stowage and man power, (d) greater flexibility in speed. It must be noticed, moreover, that the present method of using oil in ships as a fuel to heat boilers is extravagant, and in many cases is being replaced by the use of internal combustion engines or engines of the Diesel type which give approximately four times as much power per unit of oil used.¹

So overwhelming are the advantages of oil, that the change from coal burning in the Navies and Mercantile marines of the world has been very rapid, and in the case of the former almost complete; and with the dependence of the various powers on oil supplies for their fleets, aircraft and mechanical transport, the Governments concerned have been compelled to take action by diplomatic and other means to secure a share of the oil reserves of the world. The agreement between Great Britain and France at St. Remo, by which the latter power obtained a 25 per cent. participation in the oil production of Mesopotamia, is an illustration of this tendency. Even the United States, with its enormous production, has been compelled not merely to reserve certain oil-bearing regions in her own territory for her navy, but also to enter the race for oil abroad. Thus, in the Mexican oil-fields, American capital has been invested to the extent of £150,000,000 and the United States annually imports large quantities of oil from Mexico. American oil companies are also continually seeking opportunities for investment and development abroad (e.g., in Asia Minor, Iraq, Persia, Portuguese West Africa and in the South American States). The reason for the entry of the United States into this race is the realisation that at the present rate of increase in produc-

¹ Oil costs about five times as much per ton as coal. The introduction of the motor ship where the oil is economically used, therefore, makes oil fuel almost as cheap as coal in practice. Consequently a notable increase in the building of motor ships is evident at present. In fact, the motor ship tonnage under construction now approaches very closely the coal and oil burning ship tonnage under construction.



Map 3.—Sketch Map of the Chief Oil Fields of America.

tion the chief sources of supply within her own territory will probably be exhausted in 40 or 50 years.

BRITISH OIL FIELDS

Although the production of petroleum within the Empire amounts to less than 6 per cent. of the world's total production, it is nevertheless essential to our security should other sources of supply be denied to us in time of war. The prospects of future development, the situation and defensibility of our oil areas, the lines of communication from them to distributing ports, and the subsequent movement of the oil to places where it is required are therefore important.

In order of production at the present time the chief oil fields in territory which is British or under British control are as follows :—

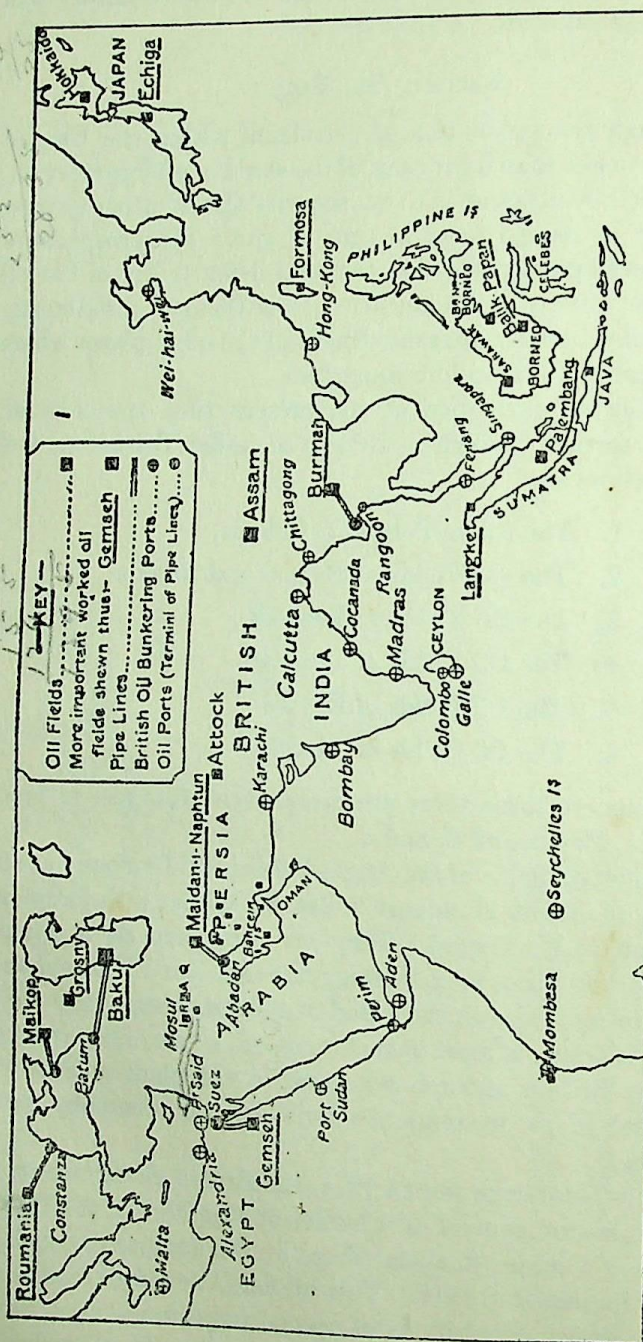
1. The Anglo-Persian Oil Fields.
2. The Oil Fields of Burma and Assam.
3. The Oil Fields of Sarawak.
4. The Oil Fields of Trinidad.
5. The Oil Fields of Egypt.
6. The Oil Fields of Attock.

In addition to these there are prospective resources in Iraq, Australia, Papua and Canada.

The chief oil fields of the Anglo-Persian Oil Company are in an area of about 25 square miles at Maidan-i-Naphtun in Arabistan (S.W. Persia). They are connected by a double pipe line, 145 miles long, running through Dar-i-Khazina and Ahwaz to refineries on the island of Abadan where some of the refining is done : a great deal of crude oil, however, is exported to Great Britain and refined either in the plant of Scottish Oils Limited or in refineries built by the Company near Swansea.

The Anglo-Persian oil fields

Shortly before the war in 1914, the British Government, in order to ensure control over sufficient supplies for the Navy, purchased a major financial share in the company, which it further increased in 1917. This oil field, therefore, although outside British territory is of special importance as a Navy reserve in time of war. Its production has been gradually



MAP 4.—Sketch Map of the Chief Oil Fields of the Near East and East, and of British Bunkering Stations

increasing and it appears likely to continue expanding for some years to come.

The protection of the Maidan-i-Naphtun Field in time of war necessitates control over the following :—

- (1) The Port at Mohammerah.
- (2) The refineries at Abadan.
- (3) The line of communication for stores, etc., by the Karun river to Dar-i-Khazina and thence by railway, river and road to the oil region itself.
- (4) The pipe lines and pumping stations at Maidan-i-Naphtun, Dar-i-Khazina and Ahwaz and the water supply at Dar-i-Khazina.
- (5) The well area of 25 square miles at Maidan-i-Naphtun.

These require political arrangements with Persia in whose territory the fields, pipe lines, lines of communication and port are situated and to whom large sums in royalties are paid yearly.

The principal Burma oil field is situated at Yenanguang, *Burma and Assam* 272 miles north of the refinery at Rangoon with which it is connected by pipe line. The Singu and Yenangyat fields, 30 and 60 miles further north respectively are also being developed with every prospect of considerable expansion.

In Assam the only fields of commercial value are those of Digboi, Bappa Pung, Makum and Badarpur in the eastern part of the province, the port for which is Chittagong.

Both the Burma and Assam fields are in regions where external attack by land is improbable. Their proximity to India and their comparative closeness to the naval base at Singapore make them of great strategic importance.

The Miri and Bakong oil fields in Sarawak, worked by the *Sarawak* Shell Company in conjunction with the Royal Dutch Company, are gradually developing into a very important source of supply. They are of naval importance in view of their comparative proximity to Singapore, but they lie to the East of Long. 110° East and the ports for the oil fields cannot on that account be fortified.

The island of Trinidad in the West Indies came into prominence as an oil producing country in 1908, when a well which had

been drilled spouted oil to a great height. The famous Stoll Meyer well, drilled in 1912, gave an initial flow of over 2,400 barrels a day. Another well a little later commenced by giving 24,000 barrels a day, but was set on fire by a careless workman. The situation of this oilfield near one of the main routes to the Panama Canal, makes its productiveness in oil of great value, from a commercial point of view, but it lies in an area where American naval power is predominant. Much prospecting has been carried out in the neighbouring island of Barbados, with indifferent success.

Egypt

The oil-bearing districts of Gemseh and Hurghada lie on the west shore of the Red Sea near its junction with the Gulf of Suez. The war gave an impetus to the development of these wells, as a natural supply of oil near the Suez Canal was an invaluable asset. Unfortunately, since the stimulus of the war has been removed, the quantity of oil obtained has gradually been declining, but there is still a possibility of considerable development in this region. The eastern and southern shores of the Sinai Peninsula moreover are being prospected and traces of oil have been discovered.

Attock

The small Attock oil-field is of importance chiefly in view of its proximity to the North-West Frontier.

Iraq

The possible oil-fields of the province of Mosul are at present being prospected by the Turkish Petroleum Company, which has obtained the rights of exploitation for 25 years in Iraq, excluding the Basra Vilayet. Participation in this company is divided equally between four groups: namely (1) The Anglo-Persian Oil Company; (2) The Royal Dutch Shell; (3) Seven of the principal American companies including the Standard; (4) Sixty-seven French Companies. The two British groups (1) and (2) hold 50 per cent. of the shares; the American and French groups (3) and (4) hold 25 per cent. each. The major interest in the Company is therefore British and the convention stipulates that the Chairman shall always be British.

Near Khanikin on the Persian border another large oil-field has been discovered and experimental drilling is being carried out there with every prospect of great success.

Should the Mosul and Khanikin fields develop as they are expected to do, it is probable that a pipe line will be laid at a

cost of £12,000,000 to convey the crude oil to Haifa or Beirut on the Mediterranean.

The question of the defence of these oil-fields which lie near the northern and eastern frontiers of Iraq, and of the future pipe lines, cannot be separated from the defence of Iraq as a whole and will be considered in the section on that country.

Expensive efforts to find oil-fields in Australia and New Zealand have failed almost completely. Small traces of oil have been found in many places, but it has not yet been discovered in paying quantities. Oil gas, however, has been found in Queensland at Roma, and is supposed to exist in large quantities. From this gas, petrol can be commercially produced and sold at a profit. New South Wales too, has a growing oil shale industry—the type of shale being a torbanite with a high percentage of petrol.

The production of oil in Canada is mainly from the Tilbury and Romney fields in Southern Ontario. These produce 90 per cent. of the total quantity found in the Dominion; smaller amounts are obtained from New Brunswick and Alberta, but the production in all these regions has been steadily on the decline since 1908, and is now only about 200,000 barrels per year, a figure almost negligible in comparison with Canada's own requirements. In addition to oil-fields, Canada, however, possesses natural gas wells, which produce a gas that can be used for heating and lighting. These gas wells have a further importance because .3 per cent. of the gas is helium, which might be utilised instead of hydrogen for the lifting power of airships, if some satisfactory economic method of isolating it could be discovered.

There is still much Canadian territory that has not been prospected. This lies mainly in the prairie provinces on the Mackenzie River basin. It has long been known that there are seepages of oil near the Mackenzie River, but it was not until 1920 that a strong flow was struck in a boring made about 45 miles north of Fort Norman on the east bank of the river. Much prospecting and drilling are still going on, with some prospect of success. The main difficulties in connection with the development of this field are, first, the long and intensely cold winter and, second, the movement of men and the necessary machinery. Should the fields eventually prove to be

*Australia
and New
Zealand*

*North-West
Territories of
Canada*

valuable, no doubt a pipe line would be constructed for the transmission of the oil to either Prince Rupert or the American port of Skagway.

*Proximity
of Oil to
Lines of
Communication*

It should be noticed that the chief Imperial sources lie, on the whole, convenient to our main lines of naval and air communications. The oil refinery of Suez is near the Suez Canal and that of Persia within easy reach of Bombay, while both lie on the air route from Cairo to Karachi via Baghdad. Rangoon, the headquarters of the Burma oil-fields, will probably be a great air station on the main air route to Australia, and Borneo lies on the route from China and Japan to Singapore.

This proximity of these resources to our lines of communication is important owing to the difficulty and expense of moving oil to important ports during war time by tankers, which are liable to submarine attack. Where land communications exist it can, however, be transported easily by pipe line, and a troublesome sea passage may perhaps be avoided in this way. During the war, for instance, an 8 in. pipe line 35 miles long, was laid across Scotland from near Glasgow to Grangemouth, on the Firth of Forth, in order that tankers might discharge oil fuel for the Allied navies at Old Kirkpatrick and so save the long and dangerous passage round the north of Scotland.

Air and naval bases will be more satisfactory, therefore, other things being equal, if they are placed where they have land, or short sea communication, with some source of oil. Thus Singapore possesses the advantage lacking to Hong Kong or Sydney, of being within easy reach of the British oil-fields in Upper Burma and Sarawak, and less strain is therefore placed on the Navy.

*The insecurity
of our
oil supply*

The situation with regard to our oil fuel supply is obviously by no means satisfactory in view of the following:—

- (1) The British Empire is not self-supporting in regard to petroleum, but is largely dependent on supplies from outside countries, and particularly from the United States. The only oil-fields of any importance which are in British territory, are those in India, Burma, Sarawak and Trinidad.
- (2) The chief British oil-fields are not in or near the centres

of white population, industry and defence of the Empire. They are, on the contrary, in regions of low development, small populations and in some cases might be endangered by local disturbances and sabotage.

- (3) Additional strain is thrown on the Navy in time of war in conveying adequate supplies of oil for the navies, armies and air forces as well as civil requirements of Great Britain and the Dominions. It should be noticed, further, that over 90 per cent. of the Empire-produced petroleum used in Great Britain is brought along the Mediterranean, a sea which, in time of war, is particularly suitable for submarine activity.
- (4) The world's supply of petroleum is estimated as only likely to last another 80 to 100 years at the present rate of production and an American Commission have stated that the United States oil-fields will not last longer than 40 years. Even assuming that these forecasts are only approximately correct, a situation is undoubtedly approaching in which the countries with petroleum resources will tend to reserve them for their own use, and the British Empire, which is sparsely endowed with this commodity, will have to use some substitute.

ALTERNATIVES TO OIL-FIELD PETROLEUM

It is therefore obviously desirable that alternative methods and substitutes should be discovered and placed on a commercial basis. Though the British Empire is not blessed with great petroleum areas it has considerable resources of shale from which oils can be obtained by various processes. Unfortunately these processes are not able, at the present time, to produce petroleum at a cost which can compete with the product of the oil-fields, but further research may enable them to do so.

Petroleum oils obtained from coal by a method of distillation at temperatures between 400° and 500° C. may prove to be another source of supply in the future. Several plants of this nature are in operation, but the whole problem has not yet been solved. Only about 17 to 20 gallons of crude oil can be obtained from each ton of coal, and, if the process is to

1. *Use of Oil Shales*

2. *Low Temperature Carbonisation*

be commercially satisfactory, a market must be found for the 13 cwts of semi-coke (coke which will burn in an open grate) which remains. The crude oil can generally be refined down to about 2 gallons of motor spirit, 2 gallons of oil fuel and 2 gallons of lubricating oil. Assuming that every ton of coal used in this country (about 200 million tons per year) were subjected to the process not more than half our requirements of petroleum oils (9 million tons per annum) could be obtained. Nevertheless its development on a commercial basis is urgently desirable. It would prove a most useful additional and secure supply, obtainable within Great Britain, for the fighting services and essential civil requirements.

3. *Pulverised
Coal*

Finely pulverised coal has been used in the United States for some years as a substitute for oil fuel, and it has been found satisfactory in locomotive engines. Perfect combustion is secured; the coal dust can be burned mixed with air in the form of a jet; the labour of stoking is reduced to a minimum; there is flexibility as in the case of oil fuel; and inferior and hence cheaper varieties of coal can be used. In the last few years the method has been applied to shipping with considerable success, and is said to be cheaper and more satisfactory than the use of oil fuel. It requires, however, the use of pulverising machinery on board the ship and does not therefore overcome the difficulty of "coaling."

Experimental work is being carried out with regard to the use of pulverised coal in internal combustion engines, and if a practical method can be found for clearing the fine ash away from the exhaust, it is predicted that the commercial results will be very far reaching indeed.

4. *Power
Alcohol*

Alcohol mixed with other suitable fuels such as ether, benzol or petrol can be used in internal combustion engines, and the mixture known as Power Alcohol is said to give excellent results. Unfortunately, the production of alcohol from vegetable products such as straw, sawdust, waste wood, and bamboo, is not yet sufficiently cheap to compete with petroleum. When a satisfactory commercial process is available the luxuriant waste vegetation of our tropical possessions will be able to supply large quantities.

CHAPTER IV

THE MAN POWER RESOURCES OF THE EMPIRE

THE population of the British Empire is more widely dispersed over the globe than that of any other Empire past or present. Its distribution in 1921 was as follows :—

<i>Continent.</i>	<i>Area in square miles.</i>	<i>Population (1921)</i>
In Europe	122,000	47,600,000
„ Asia	2,116,000	332,600,000
„ Africa	3,898,000	51,000,000
„ America	4,078,000	11,200,000
„ Australasia	3,279,000	7,900,000
Total	13,493,000	450,300,000

Of this total, 89 millions, or approximately one-fifth, live in countries which have shores on the Atlantic and 353 millions, or a little less than four-fifths, in countries touching the Indian Ocean. It contains representatives of an almost endless variety of races, languages and religions. Taken as a whole, it cannot be regarded as possessing a high standard of technical skill or literacy ; nor can the majority of the peoples which compose it be said to have in a marked degree the qualities necessary for administration, leadership or invention. In India, to take one illustration only, out of the 320 millions who inhabit that country and form 70 per cent. of the whole population of the Empire less than 20 millions are classified as literates.

Indeed, the only section of population in the Empire at the present time, which exhibits to a notable extent the qualities of homogeneity of race, language and religion combined with literacy, a high degree of technical skill and a capacity for

leadership, administration and inventiveness, is the white portion. This section also shows at present a remarkable degree of concentration as opposed to dispersion.

THE WHITE POPULATION

Concentration

Its concentration is clearly shown by the following table :—

	<i>White population</i>	<i>Estimate (1929)</i>
Great Britain and Northern Ireland ..		45 millions
The Irish Free State		3 „
Canada		9 „
Australia		6½ „
New Zealand		1½ „
South Africa		1½ „
Other parts		¾ „
Total		67 millions.

Out of a total of 67 millions, 48 millions, or two-thirds, are therefore in Great Britain and Ireland ; and 57 millions, or over 85 per cent., live in lands round the North Atlantic Ocean. This concentration of British population round the North Atlantic has been advantageous in the past. Our chief problems of Imperial defence have been relative chiefly to Western Europe, and the concentration of two-thirds of our white man power in the British Isles has therefore made easier for us a rapid mobilization of the bulk of our striking force near the probable point of impact.

Homogeneity

The white population of the Empire is also mainly homogeneous in race, language and religion. In Canada there are, it is true, over 3¼ million white people who are not of British stock, and in the Union of South Africa over 800,000 ; but out of the entire 67 millions not more than 5½ millions belong to other races than the British. This proportion compares very favourably with the United States which in 1920 had 14 million foreign born whites out of a total white population of 95 millions ; and the homogeneity which it signifies is of value in helping to ensure unity of thought and unity of action.

Technical Skill, etc.

Literacy, technical skill, capacity for leadership and ad-

ministration, and power of initiative and invention are qualities common to most of the white races of the world, and spread widely among the white population of the British Empire. Technical skill is most likely to flourish in lands where mineral resources, with their attendant industries, are well developed, and in this respect Great Britain, Canada, Australia and South Africa are particularly fortunate in possessing important resources of coal and other minerals. The other qualities mentioned can grow equally well in lands whose interests are mainly industrial or mainly agricultural; and in the latter case perhaps a spirit of pioneering has a better opportunity of developing.

Further, the white population of the Empire is not divisible into fighting and non-fighting classes, a distinction which is inherent in the traditions of the Indian peoples; and which must be made also for various reasons in most of the tropical countries of the Empire. The following table, showing the number of troops raised between 1914 and 1918, indicates the degree to which the British Commonwealth depends in time of crisis on its white peoples.

<i>Country.</i>	<i>Number of men raised. (1914 to 1918)</i>	<i>Estimated population (1914)</i>	<i>Percentage</i>
British Isles	5,700,000	46,000,000	12.4
Canada	628,000	7,600,000	8.3
Australia	412,000	4,700,000	8.7
New Zealand	128,000	1,100,000	11.6
South Africa	136,000	1,200,000	11.3
India	1,440,000	316,000,000	.3
The rest	134,000	59,000,000	.02

THE REDISTRIBUTION OF THE WHITE POPULATION

The present degree of concentration, by which two-thirds of the white people of the Empire are in Great Britain has however certain disadvantages. From an economic standpoint, great density of population in an industrial land like Great Britain may produce, not commercial prosperity, but unemployment, if the markets for the manufactured goods which that population produces do not grow *pari passu* with the

No Distinction between Fighting and Non-fighting Classes

Disadvantages of present Concentration

population. A better distribution, it is argued, would mean a larger production of the essential foodstuffs and raw materials, more wealth, greater buying power within the Empire and larger markets.

Politically, the present concentration has elements of danger. The sparse populations of the Dominions may be an incentive to other countries more densely populated to use this smallness of population and consequent lack of development as a pretext for forcible occupation. The following figures are of interest in this connection, though the physical and climatic conditions of the various countries must be taken into account in their interpretation. They serve, however, as a rough indication of the great differences which at present exist.

Great Britain and Northern Ireland	477.70	per sq. mile (1921)		
Japan	320.10	„	„	
France	191.60	„	„	
Italy	339.00	„	„	
Germany	347.00	„	„	
Russia	74.70	„	„	
United States	48.70	„	„	
Canada	2.50	„	„	
Australia	2.10	„	„	
New Zealand	13.90	„	„	

From the standpoint of defence the increasing density of population in Great Britain implies the import of increasing quantities of foodstuffs and raw materials, and consequently greater dependence on sea lines of communication for the essentials of life.

In view of the disadvantages of an excessive concentration of the white population of the Empire in Great Britain various measures have been taken since the war to stimulate overseas settlement, and Imperial Conferences have repeatedly urged a policy of "redistribution of the white population in the best interests of the Empire as a whole." The Empire Settlement Act of 1922 has this end in view. It enables the Imperial government to make available a sum of £3 million a year for 12 years for the assistance of emigration to Empire countries. It stipulates that half the expenses of approved schemes of assisted migration may be defrayed from this

allotment, but that the other half should be found by the Dominions concerned or by public or private agencies.

Unfortunately, the net result of the efforts put forth since the war have not been completely satisfactory ; and the average migration from Great Britain, to Canada, Australia, New Zealand and South Africa combined, for the period 1925-1927 (inclusive) has been less than half the migration to those countries for the years 1911-1913. But if a longer period of years is surveyed the result is not so disappointing. Thus, during the period from 1881 to 1920, New Zealand increased at an average annual rate of 23 per thousand ; Australia by 22 ; Canada by 18 ; as compared with a rate of 19 in the United States, 11 in Japan and 9 in England and Wales.

These figures serve to indicate one very significant fact ; viz., that Australia and New Zealand and Canada have been increasing in population more than twice as rapidly as England. Apart from other indications such as the slowing down of the balance of births over deaths in England, they therefore suggest that the present division of white population, by which two-thirds are in Great Britain, is being modified and that a process of dispersion, as opposed to concentration, is in operation within the Empire.

There are indications, also, of a very slow but progressive decline in homogeneity of race. In Canada, for instance, the proportion of the population which is not of British stock has increased by 8 per cent. during the last 50 years, and this process appears to be continuing. Further, the influx of American immigrants, of American financial interests, sports, journalism, and the many other agencies due to contiguity on a long frontier where no language barrier exists, may have a cumulative effect in that Dominion. Even in Dominions like Australia and New Zealand, whose populations are almost entirely British in stock, the climate, physical conditions and different problems are likely to produce differences of outlook, modes of thought, manners and even ways of speech.

These probable decreases in concentration and homogeneity make the necessity for rapid means of communication more obvious, in order to counteract the effects of dispersion, to enable closer touch to be maintained, to provide more effective means of co-operation and reduce to a minimum the potential

tendencies towards separate and irreconcilable points of view.

A NOTE ON SCHEMES OF OVERSEAS SETTLEMENT

The Empire Settlement Act of 1922, which aimed at making "better provision for furthering British settlement in His Majesty's Oversea Dominions," empowered the British Government to co-operate with oversea Governments or with public or private bodies, by bearing not more than half the expenses of agreed schemes under the Act, and provided a sum of £3 million a year for 12 years for this purpose. Such agreed schemes may be either (a) Assisted passage schemes or (b) Land settlement schemes.

Assisted passages are granted only to those applicants who have assured employment awaiting them on arrival overseas. Such employment may be obtained by the following methods.

1. *Nomination.* A man can be nominated by friends or relatives living in the Dominion to which he proposes to migrate, or by some society, philanthropic body or Regimental alliance, who will guarantee him satisfactory employment on arrival. These nominations must be accepted by the Government of the Dominion concerned (in the case of Australia by the Government of the State), before they become effective.

2. *Selection.* Men who cannot secure nominations may apply to the London representatives of the Dominion Governments who select settlers of suitable age, physique and experience, either for land settlement schemes or for farm employment.

Various schemes of land settlement are in operation, particulars of which vary from time to time. In general, however, Canadian schemes aim at the settlement of families on partly or wholly developed farms within a reasonable distance of a railway, and also provide farm employment for suitable single men who have some agricultural experience or have received agricultural training in Great Britain. In Australia, single men of 19 to 35 years of age, with some experience of farm work, are preferred, and the State Governments, who control the immigration, can place very few families in farm employment. Immigration into New Zealand is chiefly by "nomination" at present, but there is an important scheme in operation by which boys from public or first class secondary schools, between 16 and 19 years of age, are accepted and trained at farms in the Dominion, under Government supervision. In the Union of South Africa, coloured labour is plentiful and does most of the unskilled and semi-skilled work. There is therefore little opportunity for the white settler, unless he is prepared to be

an employer and is in possession of a considerable amount of capital.

The following table shows that the flow of migration to the Dominions has not maintained the pre-war level in spite of these schemes of assisted settlement.

Emigration from Great Britain and Northern Ireland.

		1911-1913 (average per year.)	1925	1926	1927
Canada	.. ..	143,700	38,700	49,600	52,900
Australia	.. ..	79,500	35,000	44,500	41,000
New Zealand	.. ..	12,900	14,700	16,600	7,800
South Africa	.. ..	11,900	7,000	8,300	7,600
Total	.. ..	248,000	95,400	119,000	109,300

Of the total for 1927, about 64,000 or 60 per cent. obtained assisted passages under the Empire Settlement Act. The natural increase (*i.e.*, balance of births over deaths) is at present about 230,000 per annum, and the total emigration to the overseas Dominions is therefore less than half the natural increase.

The falling off in migration, obvious from the foregoing table, can be ascribed to a number of causes. General trade depression, unemployment, and lack of capital have played a large part in Australia and New Zealand in restricting the openings for immigrants, and Australia was compelled in 1929 to suspend practically all schemes of assisted settlement. A desire in Australia to prevent the dilution of labour and to maintain a high standard of living has tended to make that Dominion less willing to accept a large flow of immigration. The absence of unemployment insurance in the Dominions, as contrasted with the existence of such benefits in Great Britain, has, perhaps, been responsible for a decrease in the number who desire to migrate; and this number may have been still further decreased by a post-war falling off in the spirit of adventure and pioneering.

But probably the chief cause, which contributes to the smallness of the flow, is the fact that the Dominions, being agricultural, require agriculturists while the portion of the British population which is desirous of emigrating is mainly industrial. To meet this difficulty Ministry of Labour Farm Training Centres have been established in Norfolk, Suffolk, Scotland and Northern Ireland, where men receive 12 weeks preliminary training in general farm work and in the care of

animals. Men who complete their training satisfactorily are assured of farm employment in Canada. The Hudson Bay Company also has established a training farm in Bedfordshire ; and the Army Vocational Training Centres at Chiseldon and Mhow (Central India) play a similar part with regard to some of the 35,000 men who pass annually to the Reserve from the Army.

CHAPTER V

LINES OF COMMUNICATION BY SEA

THE HOME WATERS, THE MEDITERRANEAN AND THE INDIAN OCEAN

THE Empire can be compared to a living body of which each Dominion and Colony is a member : Great Britain, the receiving and distributing centre, is the heart, and the lines of sea communication are the arteries. Indeed this metaphor can be carried further to its logical conclusion in so far as injury to the heart, or the stoppage of an important artery, may mean death. The existence of the great industrial centres of England, the movement of raw materials from the outlying parts of the Empire necessary for peace and war, and of troops and supplies to any point which is attacked, all depend on the maintenance of these lines of communication.

Their defence obviously relies on two factors : a navy to guard, and the holding of positions from which that navy can most effectively carry out its work. In other words, it rests on the naval strength of a country applied by means of its geographical situation, and the suitable bases for operations, victualling, fuelling, etc., which it possesses. The defence depends not on either of these factors singly but on both combined. Without such stations a navy would be as helpless as an army without a base, while the converse is also true that no holding of strategic points such as Gibraltar, Malta or Singapore, by land forces, can maintain our sea communications without an efficient fleet. Thus the Straits of Dover were not held during the Great War by the fortifications of Dover, but by the combination of naval resources, such as the Dover Patrol, minefields, and the possibility of calling quick reserves to that point in case of need. Only in this sense can land positions be the key to maritime communications.

As this and the following two chapters will deal chiefly with the strategic positions, such as bases and defended fuelling stations on the lines of sea communication of Great Britain, it is well to define clearly at the outset the functions which such stations can perform in time of war.

1. They are used for docking and repairs to capital ships and auxiliaries.
2. They are fuel and supply reserve depôts.
3. They are submarine-proof shelters in which a fleet can rest, take in stores, and where transports and supply ships collect in safety to be convoyed to given points.
4. They are harbours of refuge and re-fuelling stations for smaller craft with a limited radius of action.
5. They aid in the control of trade. By the ownership of most of the important fuelling stations of the world, placed on the main routes of trade, shipping can be compelled to take certain pathways in time of war, while enemy shipping can be stopped or forced to sail by more circuitous routes.

Naval bases generally perform all the above-mentioned functions and in addition where facilities exist may be used also for the construction of new ships. They can be divided in accordance with the function on which most emphasis is laid into three classes.

(a) Constructional bases, such as Devonport. These require great resources of skilled labour, material and manufacturing shops, and therefore all the Imperial constructional bases are situated in Great Britain.

(b) Maintenance bases, such as Gibraltar, Malta and the new base at Singapore which have fixed or floating dry docks, technical equipment, skilled labour and workshops and the other requisites for carrying out extensive repairs.

(c) Operational bases, such as Scapa Flow during the Great War, which are selected as suitable bases of operation but are not constructional or maintenance bases, all considerable repairs being carried out in other ports. In general, whenever possible, naval bases combine the functions of (b) and (c).

Defended fuelling stations perform the duties (2) to (5) given above. Any good harbour possessing the necessary supplies and facilities for oiling and coaling and favourably situated for defence can be rapidly improvised as a defended fuelling station by the erection of harbour defences and the establishment of a garrison.

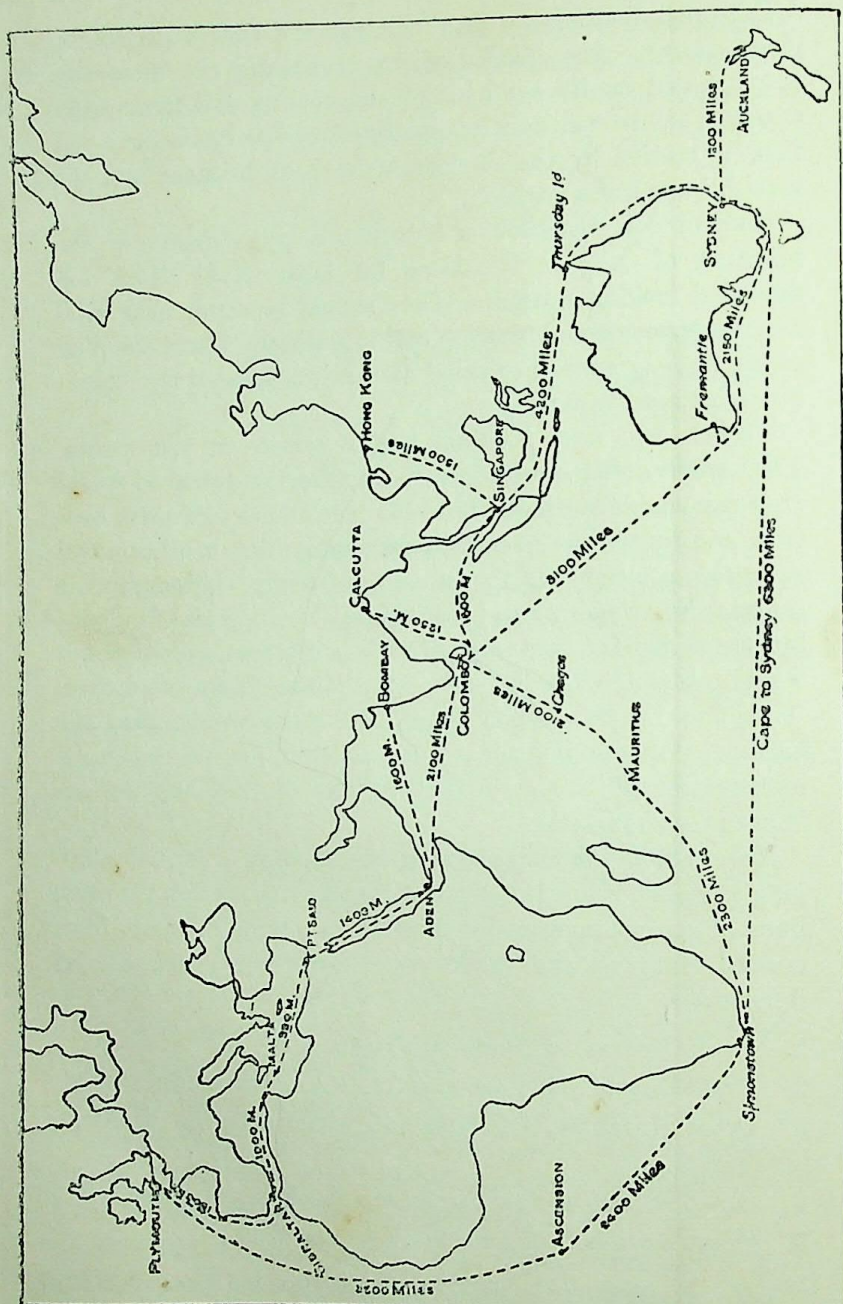
Geographical situation is naturally a prime factor in the selection of suitable situations for both naval bases and defended fuelling stations. They should be on or near vital arteries of sea communication and in positions where shipping owing to geographical or other causes is congested and therefore most open to attack.

To sum up, such positions are of service in two senses. They are of direct service in so far as they are situated where they can enable our naval forces to police lines of communication, and by the use of minefields, submarines or other naval activities prevent the movement of enemy shipping while safeguarding their own as far as possible. They are of indirect service in that the possession of such points by a hostile power would probably close the route to us if that power used them for submarine or aircraft bases. In other words, they are barracks for the policing of movement, the protection of movement, and the prevention of movement along the sea lines of communication.

Reference to the map showing the amount of British shipping at sea on April 1st, 1923, will make it clear that the main lines of sea communication from Great Britain, apart from coastal shipping and trade with European ports, are as follows :—

1. Great Britain to North American ports.
2. Great Britain to the East and Australasia via the Suez Canal.
3. Great Britain to the East and Australasia via the Cape Route.
4. Great Britain to the Pacific via the Panama Canal.
5. Great Britain to the Pacific via Cape Horn.

This classification leaves out of account the lines of trade communication between the various dominions themselves, for these, comparatively speaking, are still of minor importance.



MAP 5. A map of Imperial Sea routes, showing distances between Naval Stations.

In following these routes on the map, it will be seen that they may be protected most easily and economically by the selection of certain points as naval stations. Such points can be classified as follows :—

*Types of
Strategic
Points on
Lines of Com-
munication
(Nodal
points)*

1. Maritime gateways, *e.g.*, English Channel ports, Gibraltar, Malta, Port Said, Singapore, Thursday Island, etc.
2. Junctions of trade routes, *e.g.*, Cape Verde Islands, Colombo, etc.
3. Turning points on a trade route where vessels naturally hug the shore to keep the shortest route. Notable examples of this type are Simon's Bay, near Cape Town, from which ships rounding the Cape of Good Hope could be attacked ; Fremantle, on the turning point of the route from the ports of Southern Australia to India and the Suez Canal.
4. Flanking positions near trade routes, such as Halifax (Nova Scotia), which flanks the main routes from Great Britain to New York and Boston ; the Bermudas which flank the United States' coast trade and the routes from New York and Boston to the Panama Canal ; the Falkland Islands (Port Stanley), which flank the route from Great Britain to the Pacific via Cape Horn ; Freetown (Sierra Leone), which flanks all traffic from the northern to the southern Atlantic.

With this classification in mind, the strategic points on the various lines of communication can now be considered. The natural order will be followed, *i.e.*, starting from Great Britain, and following the main artery of the English Channel to where it divides out into a number of branches, we can then consider each branch in turn.

The situation of Great Britain is that of a barrier 600 miles long lying off the coast of western Europe and enclosing an inland sea (the North Sea) of comparatively small area. To this sea there are only two outlets ; the one by the Straits of Dover (21 miles) and the other between the Shetlands and Norway (190 miles). This geographical position gives Great Britain the opportunity of controlling, by the use of sea power, all access by water to Belgium, Holland, Denmark, Germany and the Baltic. On the other hand, it should be noticed that

*Position of
Great Britain
with Refer-
ence to
Imperial
Lines of
Communica-
tion*

the converse, to some extent, is also true, because as experience has shown, it renders her more liable to submarine attack of a concentrated form near these two gateways which lead to the eastern ports. A map giving the positions of ships sunk by U-boats during the war, shows how attack can be, and was, focussed naturally near these gateways.

*France with
Reference to
Imperial
Lines of
Communica-
tion*

This liability to attack would be the case particularly if France was hostile to us. The French naval and submarine base at Brest would then seriously menace communications with all our eastern ports, and to a great extent also with the southern and western ones. The width of the gateway from Brest to Land's End is only 120 miles, and this French base is therefore, as it always has been in naval history, a position of extreme importance, which might, by the proper use of aircraft and submarine power, render the English Channel unsafe for the sea communications of the Empire.

*Ireland in
Relation to
Lines of
Communica-
tion*

Just as Great Britain is a barrier to sea communications with western Europe, so Ireland is a barrier 300 miles long to sea communications with Great Britain. The gateways to the sea between the two islands are the northern one between County Antrim and the Mull of Kintyre (12 miles), and the southern between Queenstown and Land's End (180 miles). A strong hostile power, in control of the many admirable harbours of Ireland, might therefore make access to the ports of Cardiff, Swansea, Bristol, Liverpool and Glasgow difficult. If that hostile power were in alliance with France, the situation would be still more serious, for the whole entrance from Queenstown to Brest might then be unsafe, and the only route left open for secure communications with Great Britain would be that round the north coast.

*A proposed
Channel
Tunnel*

The insularity of Great Britain, while providing an obvious safeguard against unexpected attack, makes the movement of supplies and personnel to or from the Continent of Europe comparatively slow and expensive, owing to the necessity for transfers from rail to ship and *vice versa*; and, in time of war, especially if submarine activity should be an acute problem, throws a serious strain on the Navy. Various schemes have therefore been proposed from time to time for the construction of a Channel tunnel under the Straits of Dover which would permit of through communication by rail between England and France.

A sub-committee of the Committee of Civil Research considered a number of schemes of this character in 1929, and issued their report in March 1930. They agreed that a tunnel would probably increase passenger traffic and might produce some increase in imported goods. They recommended that the project should be carried out, if at all, by private enterprise, and that an initial pilot tunnel should be constructed under the Channel in order to obtain fuller geological knowledge with regard to conditions in the strata. This pilot tunnel could afterwards be used as a ventilating and draining tunnel for the two main tunnels which would later be built for railway traffic. They estimated the total cost of such a scheme when completed, including a six miles tunnel in England near Folkestone, 24 miles under the Channel and another six mile stretch in France as £30 millions, and the time required for construction at about seven years.¹

Various economic arguments have been adduced against any such scheme. It is argued that, though imports might increase, exports would not be materially affected and the net result to our trade would therefore be adverse. Further, it is said that our passenger shipping traffic would diminish and that the decrease in connection with this important trade would balance any increase in railway receipts and employment.

From a military aspect it is worthy of notice that the Committee of Imperial Defence reported against the construction of a Channel tunnel on two occasions in the past. It has, however, been emphasised recently that the experience of the war has shown the vulnerability of an insular position, and that, as long as France is friendly or neutral, a tunnel would give us a valuable line of communication independent of sea activity; while if France were hostile, the tunnel could be put out of action so easily that it would create no added strategic liability worthy of mention.

Another point of view which has been put forward is that its construction is unwarranted, in view of the rapid development in air travel which may be anticipated; and that even a few years hence it will be superseded by rapid and commodious air expresses.

¹The British Government announced in June, 1930, that they did not propose to proceed with the scheme.

THE MEDITERRANEAN ROUTE TO THE EAST

The Mediterranean Sea is our chief line of communication to that half of the area and four-fifths of the population of the British Empire which lies round the Indian Ocean. It is a comparatively narrow defile, flanked on both sides by the possessions of two first-class naval powers. It is our main route for military and naval reinforcements to the East: by it pass regularly our chief supplies in jute, tin, rubber, wool, tea and Empire produced petroleum. The tonnage of British shipping in the Mediterranean on any day in the year is second only to the tonnage crossing the North Atlantic. If this route were denied to us as a means of communication, the distances to our eastern territories would be greatly increased—to Bombay by 4,300 miles, to Sydney by 1,100 miles and to Singapore by 3,300 miles; communication by sea would be correspondingly slower, and more shipping would be required to carry a definite tonnage in a specified time. Along it also runs, for part of its way, our chief Imperial Airway to the East.

Its geography as an Imperial line of communication can best be studied from three aspects: (1) The British territories in or near this sea; (2) The interests therein of other first class naval Powers; (3) The peculiar suitability of the Mediterranean for certain forms of naval activity.

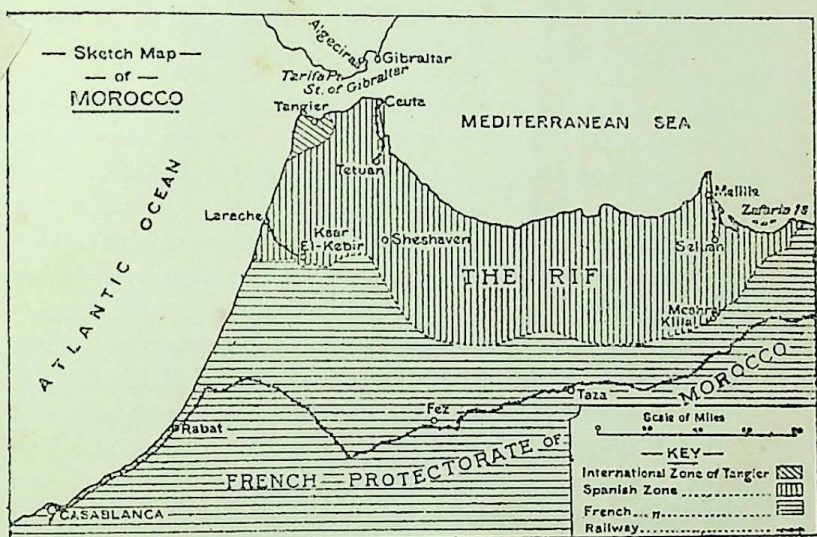
THE BRITISH TERRITORIES AND TERRITORIES UNDER BRITISH CONTROL

Gibraltar

Distance of Gibraltar from London, 1,200 miles. Time 3 days by sea.

Gibraltar is a fortified naval and fuelling station, and a home of the Atlantic Fleet. It is equipped with graving docks, has an enclosed harbour of 400 acres in extent capable of taking the largest battleships, and possesses the necessary fuelling and supply reserves and facilities. Its position near the entrance to the Mediterranean makes it of great importance, but it should be noticed that this value, as in the case of all naval bases, does not depend on the guns of the fortress controlling the Straits, but on the opportunity which it gives for naval control, and the fact that it is a rendezvous of the Atlantic and Mediterranean fleets. It is not situated at the

narrowest part of the straits (see sketch map), and the harbour which is on the western side of the promontory could be commanded by gunfire from Spanish ground behind Algeciras, 10,000 yards away. This danger would arise, of course, only in the very improbable circumstance of war between Great Britain and Spain. There are more serious considerations with regard to Gibraltar, such as the limited space of the Rock, which makes further harbour development difficult except by building expensive works on the eastern side. This lack of accommodation may seriously affect its future as a



MAP 7. Gibraltar and Tangier, showing the Zones in Morocco.

station on the air routes of the Empire, as there is not sufficient accommodation for aircraft of any type except sea-planes.

Near the Atlantic entrance to the Strait of Gibraltar, on the African coast, is the town of Tangier which is the port for a considerable and growing trade from the interior of Morocco. Its possible development is not restricted as in the case of Gibraltar by lack of space, and it has a wealthy and comparatively unexploited hinterland. Further, its geographical situation, almost at the junction of the Mediterranean and the Atlantic, suggests a natural suitability as a port of call and coaling station. In each of these respects it possesses advantages lacking in the case of Gibraltar and its expansion might

*Tangier
A possible
Rival to
Gibraltar*

seriously lessen the value of "the Rock" from both a commercial and a strategic point of view. The control of Tangier, therefore, has an intimate bearing on the security and prosperity of Gibraltar.

By agreements made in 1904 and 1912 Morocco was divided into three political zones :—

- (a) The Southern or French Zone, which was placed under French influence.
- (b) The Northern or Spanish Zone, which was placed under Spanish influence.
- (c) The town of Tangier itself with about 280 sq. miles of country which was placed under International control.

As might be expected, this international control proved a failure as far as the development of the town and surrounding country is concerned. Whenever even minor alterations were required, such as the making of a sewer or the repair of a road, permission had to be obtained from so many authorities that progress was abnormally slow. Nevertheless, the period from 1912 to 1923 saw a steady increase in its importance and in the development of French influence in its commercial affairs. In December 1923 the question of the control of the Tangier Zone was re-opened, and a Convention of representatives of Great Britain, France and Spain was held in Paris, at which a new agreement was reached. The chief results of this agreement were as follows :—

- (1) The Tangier Zone was placed under a régime of permanent neutrality. No military establishments, land, naval or aeronautical, no base of operations, no installation which could be used for warlike purposes to be created or maintained in the Zone. The Administration were, however, permitted to take all measures of local defence against incursions of hostile tribes, other than a concentration of air forces.
- (2) Supply columns and troops proceeding to or coming from the French or Spanish Zones might, after previous notification to the Administrator of the Tangier Zone, use the port of Tangier, and its means of communication to the respective Zones, for not more than 48 hours at any time.

(3) The Government of the Tangier Zone was to consist of the following :—

(a) *The Legislative Assembly* composed of French, Spanish, British, Italian, American, Belgian, Dutch and Portuguese representatives, nominated by the respective Consulates, and in addition 6 Mohammedan and 3 Jewish subjects of the Sultan of Morocco.

(b) *The Committee of Control*, composed of the Consuls of the above mentioned Powers, whose duty it is to ensure a régime of economic equality and to see that laws and regulations made by the Legislative Assembly are not contrary to the provisions of the Constitution. In order to accomplish this the Committee of Control can veto any enactment passed by the Legislative Assembly.

(c) *The Administrator* who carries out the decisions of the Assembly and directs the international administration of the Zone. The Administrator, who is therefore the Chief Executive Officer, has under him two Assistant Administrators, one responsible for health and relief services and the other for the financial services. For the first period of six years the Administrator will be of French nationality, the Assistant in charge of health, Spanish, and the Assistant in charge of finance, British. After this period these officers will be appointed by the Legislative Assembly from among the nationals of the different powers.

Italy and the United States, not being parties to this Convention, refused to recognise the agreement, and some further alteration in the Status of Tangier was inevitable. Another convention was accordingly signed in 1928 to which Italy was a signatory, by which an Italian Assistant Administrator was appointed, in addition to the two mentioned above, to be responsible for judicial affairs.

It will be seen that for the immediate future, at least, French influence predominates in the Tangier Zone, but that certain safeguards have been established to prevent any attempt to develop it as a strategic rival to Gibraltar. In any case it suffers from a serious lack of harbour accommoda-

tion. There is little more than an open roadstead and the remains of a mole built during the period of British occupation. Any development in this direction would call for a very large expenditure of money before the harbour could be made thoroughly suitable for modern conditions.

*Ceuta.
A possible
alternative to
Gibraltar*

The restricted space which limits the further development of Gibraltar as a naval and air base has given rise to a suggestion that, by arrangement with Spain, Gibraltar might be exchanged for Ceuta. The arguments produced in favour of this are :—

- (1) That the position is equally good as regards naval control of the entrance to the Mediterranean, while there is ample room for expansion both from a naval and air point of view.
- (2) That Spanish sentiment, always perturbed by our occupation of a portion of their country would regard such a change with great favour.
- (3) That the development of Morocco would gradually bring an increasing measure of local trade to Ceuta.

The arguments against the exchange are, however, perhaps even more weighty. Ceuta would have a land frontier to defend, while Gibraltar is practically an island. Its possession would therefore entangle us in the troubled affairs of Morocco, particularly with French and Spanish competitors, and would add a new and ever recurring problem. Further, no such exchange could be made unless Spain were willing to give a lump sum to us representative of the huge amount of capital sunk in the development of Gibraltar during our period of occupation, in order that Ceuta might be made of equal value without expense to Great Britain. And lastly, British sentiment is even more strongly concerned in the matter than Spanish sentiment. The Rock has become in a sense the symbol of the British Empire, and such an exchange could only be accomplished in the face of the strongest British feeling, if an unanswerable case could be produced in favour of it.

Malta

Malta 980 miles from Gibraltar.

„ 980 miles from Port Said.

„ 660 miles from Marseilles.

Malta is placed almost midway between Gibraltar and Port

Said, and is nearly equally distant from Messina (180 miles) and Cape Bon (220 miles). Its position, therefore, makes it a suitable station for commanding the approaches from the western to the eastern Mediterranean. The harbour of Valetta is supplied with graving docks and a large ex-German floating dock, is strongly fortified and is the base of the Mediterranean fleet. It is also a cable and wireless station of great importance.

The central position of Malta in the Mediterranean, has made it even more valuable from a naval standpoint than Gibraltar; and it has also had a military value as a barracks from which troops could be quickly moved towards any threatened point in the eastern Mediterranean. The importance of the island would be increased rather than lessened (unlike Gibraltar) by the establishment of Imperial aircraft routes which will no doubt require Malta as a landing and fuelling station. At present there are military and civil aerodromes on the island, and it is the base of an air squadron.

It should be noticed that for some time there has been a definite sentiment in Italy, and a certain amount of propaganda carried on by a small section in Malta itself, for the appropriation of the island by the Italians. In 1921 a measure of self-government was granted to the Colony, by which all local affairs are dealt with by an elected Assembly and Upper House, while all matters of Imperial interest are under the control of the Governor.

Cyprus 240 miles from Port Said.

The island of Cyprus, off the main track of our sea communi- *Cyprus*
 cations, is unfortified and is garrisoned only by native police, together with one company of British troops detached from a battalion serving in Egypt. This island is one of many cases where we hold possessions because it would be dangerous to let them go, as in the hands of some other power, it might be made a base from which to menace the Suez Canal.

We obtained it in 1878 from Turkey on an agreement to defend the Asiatic dominions of the Sultan against further aggression by Russia. We undertook at the same time, to pay to the Porte, year by year, the surplus revenue of the island during our occupation. This was a continual drain

for some years, and retarded all possibility of progress. In 1914, however, when Turkey entered the war, Great Britain declared the suzerainty of the Sultan to be at an end, and our occupation and ownership of the island were confirmed by the Peace Conference.

Cyprus (3,400 square miles) consists of a central plain lying between a narrow mountain ridge on the north, and a broad and varied highland at the south, which rises to 6,000 feet. The capital, Nicosia, is in the centre of the plain, and is connected by rail to the Port of Famagusta where there is a small harbour constructed by the Government. The other coast towns of the island have harbours either small or silted up, or are mere open roadsteads unsafe for modern steamships. In the future, the importance of Cyprus will probably increase, as it lies on the direct sea route to Alexandretta, where the Baghdad railway line—by a small branch—touches the Mediterranean. When the gap in this line between Nisibin and Mosul is completed, Alexandretta will probably become a port of importance to our trade, some of which will pass along this great trunk line from east to west. The proposed oil pipe line from Iraq oil fields to Beirut may also increase its value as a station on the sea routes. Another possibility of the future is the use of Cyprus as a station on the air routes from Constantinople and central Europe to Egypt or Iraq. The central plain in the neighbourhood of Nicosia has areas suitable for landing grounds.

*Egypt in
Relation to
Lines of Sea
Communica-
tion*

Distances : London to Port Said	..	3,260 miles.
Port Said to Suez	..	100 miles.
Suez to Aden	..	1,300 miles.

Though Egypt, Palestine and the Suez Canal will be considered in subsequent chapters, it is desirable at this stage to point out certain salient facts, in relation to the lines of communication.

1. Although the Suez Canal by international convention is unfortified, and open to the ships of all nations in time of war, this convention would probably be disregarded during actual hostilities by any power strong enough to hold the canal and close it to enemy ships.
2. Egypt would be the most suitable base for an attack by

land on the Canal. Under these circumstances, the Canal might be defended by maintaining an army in its immediate zone, with a base in Palestine, but the lines of communication would then be long and difficult, and supplies—especially water—would form a most serious problem. At present the fresh water supply for inhabitants of the Canal zone comes by canal from the Nile near Cairo.

3. Even if the Suez Canal zone could be defended from Palestine, a hostile power in Egypt, by the use of submarines and aircraft, might in practice close the entrance into the Mediterranean.
4. Egypt has a peculiar importance, moreover, as the central junction of the British Empire, placed where two seas and two continents meet; half-way on the main route from Great Britain to India; half-way from eastern Canada to New Zealand; the Great Circle Route from Halifax (N.S.) to Wellington, New Zealand, passes close to the Suez Canal, and Suez is near its middle point; it is the terminus of the "all-red" corridor from Cape Town, and the future terminus of the Cape to Cairo Railway.
5. In any scheme of Imperial air routes, the central position of Egypt makes it perhaps the most important region through which the lines from London, Constantinople, Cape Town, Baghdad, Karachi and Perth (Western Australia) must pass. On all these counts Egypt must be regarded as one of the most vital regions through which lines of communication of the Empire pass.

THE INTERESTS OF THE OTHER MEDITERRANEAN POWERS

In considering the Mediterranean as a line of sea communication, it is necessary to bear in mind the positions, relative strengths and commitments of the two great Naval Powers, France and Italy, which have territories on both sides of this sea. For France it is the only means of communication to Algiers and Tunis, and is the most important route to French Morocco, Madagascar, French Somaliland and French Indo-China. For Italy, it provides the routes to Tripoli and

Cyrenaica, Eritrea and Italian Somaliland. It is therefore no less essential to these Powers, from the standpoint of colonial defence, than it is to ourselves.

France

In the case of France, the years since the war have witnessed a notable accession of comparative military and economic strength. The Treaty of Versailles (1919) reduced the German Army to a size less than half that of the French forces, defortified a region 50 kilometres in width on the east bank of the Rhine, abolished the German Air Force and restricted the German fleet to the size of a mere coast defence force. It also gave Alsace and Lorraine to France, adding 1,700,000 people to her population and immense iron fields to her economic reserves. By the acquisition of the latter province she became the second greatest producer of iron ore in the world (the United States being first) and the third greatest producer of iron and steel, after the United States and Germany. The ownership of the coal fields in the plebiscite area of the Saar Valley added 12 million tons of coal a year to her output. The acquisition of these further resources has led to a striking growth in industrial power. Her foreign trade has vastly increased and her tonnage of shipping has almost doubled since 1913.

As an offset against these assets, she has a population almost stationary in numbers, in spite of the acquisition of Alsace and Lorraine, and an Eastern frontier 100 miles longer than before the war. Further, the process of industrialisation, which is taking place, demands a secure supply of raw materials. For this supply of raw materials she looks chiefly to her colonies in Africa, and particularly to French Equatorial Africa which, as yet, is practically undeveloped, but has great possibilities in connection with the production of cotton, coffee, maize and a number of minerals. Tunis, Algeria and French Morocco have small but highly fertile regions, and a number of mineral resources of which phosphate rock is the most important.

France looks to her African colonies for the additional manpower also which her own stationary or decreasing population may require in case of war. In Algeria and Tunis compulsory military service has been in operation for some years; Senegalese regiments have been part of the French Colonial Army

since 1911 ; and, while the peace establishment of coloured African troops is only 180,000, it is expected that one million could be enrolled, out of the total population of 24 millions, at a time of mobilisation.

Algeria and Tunis tend, therefore, to be the collecting area, *The importance of the Mediterranean to France* for man power in case of war and material resources generally, for the West African group of French colonies. The opening of motor routes across the Sahara, and the elaborate scheme for a trans-Saharan railway which would bring Mediterranean ports, such as Oran and Algiers, into rail communication with French Equatorial Africa and with French ports on the Atlantic like Dakar, are natural corollaries. By means of this latter scheme material and personnel could be moved to the Mediterranean over a line unthreatened by any other Power.

The necessity arises, however, for maintaining the security of the line of communication from French North Africa to France ; for, without this security, the collection of resources and personnel would be valueless. The average distance across the Mediterranean, between ports such as Algiers and Toulon, is only about 450-500 miles ; and the security of this short line of communication is one of the chief responsibilities of the French Navy. The method, generally foreshadowed for its defence, is the employment of very fast cruisers, aircraft and submarines, not merely to ensure directly the safe movement of grain and troop carriers, but also to make an enemy concentrate their attention on the protection of their own shipping passing along the Mediterranean. To the French, the submarine, in particular, appears to be the most suitable weapon for this purpose, and hence they have consistently refused to agree to its abolition, as at the Washington Conference in 1921-1922 and the London Conference in 1930.

Italy is essentially a Mediterranean Power, with no access, *Italy* except through its waters, to the other seas of the world. Like France, she has increased greatly in strategic and economic strength since the war. The Treaty of St. Germain removed one serious flaw in her northern frontier, from the standpoint of defence, by giving her the Trentino Salient and control over the Brenner Pass. On her eastern side, she obtained the peninsula of Istria, half the harbour of Fiume and the old Austrian naval bases at Pola and Trieste. The

Austro-Hungarian Empire with a population of 56 million people was broken up, the Austrian fleet in the Adriatic ceased to exist; and Italy's neighbours became the small republic of Austria, and the new and incompletely consolidated state of Jugo-Slavia. Her land problem on the northern frontier disappeared, and the Adriatic from a naval point of view, became practically an Italian lake. Internal government was greatly strengthened by a new form of rule, Fascismo, which came into being in 1922. Commerce, industry, agriculture, and shipping have increased, and a new Imperial spirit has been fostered. Italy has, however, a population problem of the opposite character to that of France. Her population rose between 1911 and 1921, in spite of war losses, from $34\frac{1}{2}$ millions to $38\frac{3}{4}$ millions; and to-day it is over 41 millions, or greater than that of France. As her area available for agriculture is limited, her dependence on external supplies of foodstuffs, is considerable, and, though this dependence is at present lessened by energetic measures, such as the draining of malarial areas and the application of scientific methods to agriculture, each year will probably witness an increase in the food imports.

Prior to 1921 Italy got rid of a large part of her annual increment of population by a flow of emigration to the New World, and chiefly to the United States, but this mode of adjusting her difficulties has been greatly handicapped by a series of Immigration Laws, restricting the number of immigrants into the United States to a fixed Quota each year. Under successive Quota Laws the number of Italian immigrants into that country has fallen from over 220,000 in 1921 to less than 6,000 in 1929. Nor do the Italian colonies offer prospects for the Italian immigrant. Eritrea and Somaliland are tropical countries unsuitable for white settlement; Tripolitania and Cyrenaica have only a narrow coastal fringe of fertile land, and all combined could not take more than a few thousands each year.

A process of industrialisation, by which manufactures can be exchanged for raw materials and foodstuffs, helps many of the countries of Western Europe to maintain populations greatly in excess of their own food resources. But such a process depends on (a) a secure supply of raw materials,

(b) markets for the manufactured products, and (c) security of the lines of communication to the raw materials and the markets. Italy is, on the whole, unfavourably situated with regard to the raw materials for industry. She has no considerable mineral resources except mercury, sulphur and zinc, and is dependent on imported coal to the extent of ten or twelve million tons a year from Great Britain. The Italian colonies are also singularly lacking in minerals, nor are they ever likely to be very profitable markets for manufactured goods. She is, therefore, dependent for her raw materials of industry and for markets for her manufactures very largely on foreign countries, and, indeed, mainly on countries which lie outside the Mediterranean Sea.

Her chief naval problem is therefore the maintenance of her seaborne traffic to and from ports outside the Mediterranean. Her line of communication through the Western Mediterranean to such ports is flanked on both sides by French naval harbours, and she has therefore consistently upheld a principle of naval equality with France. She has on the other hand one valuable asset. She flanks the gateway, one hundred miles in width, from the Western to the Eastern Mediterranean; and, by the exercise of sea and air power, might perhaps make communications for France or Great Britain to their territories in the East extremely hazardous and even render Malta insecure as a naval base.

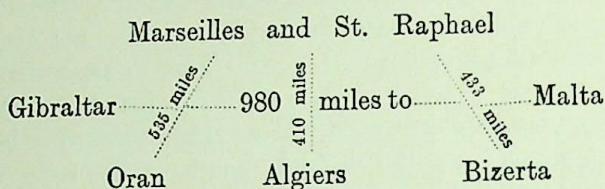
THE PECULIAR SUITABILITY OF THE MEDITERRANEAN FOR SUBMARINE OPERATIONS.

The geography of the Mediterranean makes it peculiarly suitable as a region for submarine attack against shipping moving along it, for the following reasons:—

(1) It is a long narrow sea, 2,000 miles in length by 500 miles in width on the average, consisting in reality of two seas, the Western and Eastern Mediterraneans, with a narrow gateway from one to the other between Sicily and Cape Bon, behind which is situated Malta as a sentinel. In a contest with France or Italy, the Western Mediterranean would obviously be the more immediately important theatre, and we can take its length from Gibraltar to Malta as approximately 1,000 miles and its average breadth as 500 miles. Because it is a narrow sea our

shipping routes from Gibraltar to Malta are definite, easy to find, and therefore susceptible to submarine attack, while the routes from France or Italy to their possessions in Africa are short (450 miles), and have greater possibilities of variation.

(2) This is apparent if we compare the positions of British and French naval stations in the diagram.



It may be noticed, further, that the direct route from Gibraltar to Malta cuts the direct French routes less than 100 miles from the African coast; that the distance of Algiers to Gibraltar is rather greater than that from Algiers to Marseilles, and that the French submarine base at Oran lies at a part of the Mediterranean where the breadth (to Cartagena) is only 115 miles, so that it is admirably placed as a position from which to launch submarine attacks against shipping entering or leaving the straits of Gibraltar. Oran, indeed, bears the same relation to the straits of Gibraltar as Ostend and Zeebrugge did to the Dover gateway.

(3) The depth of the Mediterranean has a bearing on the situation also. This is clear when we consider the methods employed with success during the recent war against the submarine. They fell under various heads:—

- (a) Means employed for detection, *e.g.*, listening apparatus, aircraft.
- (b) Means employed for surprise and destruction, *e.g.*, Q ships.
- (c) Means employed for protection of shipping against submarines, *e.g.*, camouflage and convoys, dispersion, routeing.
- (d) Means employed to limit the movement of submarines *e.g.*, minefields and netting.

Of these probably the most important was the anti-submarine minefield or barrage. It aimed at compelling the submarine to dive and pass under an obstacle of considerable width, so that its batteries became exhausted and, when it rose on the

other side of the barrage and was detected by aircraft or destroyers, it might not be in a position to dive again. But anti-submarine minefields can only be sown satisfactorily in comparatively shallow waters such as those of the Continental shelf round Great Britain. Even there, difficulty was experienced owing to comparatively great depths. This was particularly the case in the construction of the immense northern barrage completed in October, 1918, by the American and British Navies and extending across the 240 miles from the Orkneys to Norway. The chief difficulty lay in a deep gut some 60 miles wide on the Norwegian side, where the depths ran to 150 fathoms.

Depth, therefore, is a consideration which may operate in favour of the submarine, and in this connection it may be noticed that the Mediterranean is a sea with the great *average* depth of 880 fathoms, or about six times that of the stretch in the North Sea which gave so much difficulty. It is much too deep to permit the laying of a barrage except near the coast lines of Europe or Africa and in one other important area. This area is that part of the Mediterranean where a bridge, now submerged, existed between Italy and Africa. It lies between Sicily and Cape Bon, is known as Adventure Bank, and has an average depth of 100 fathoms, and would appear to be a suitable locality for a barrage to narrow operations to the Western Mediterranean and to act as a strong defensive screen for Malta.

Depth on the other hand occasionally appears to operate against the submarine when pursued. Where the depth is moderate it can retire to the bottom, economise its batteries, and come up after nightfall. The great depth of the Mediterranean for the most part would prevent this, and if consistently pursued the submarine must run under water on its batteries and perhaps come up eventually to be attacked when they are exhausted.

(4) Two factors which militate against the submarine must also be stated. They are the tideless nature of the sea which permits mines to remain in position, and the clearness of the water which gives the air patrols better opportunities for detection.

To sum up, the development of aircraft and submarines has

made the security of our lines of communication in the Mediterranean less satisfactory, and either Power, if well equipped with submarines, might make our position difficult. (The French torpedo boat and submarine bases of Toulon, Oran, Algiers and Bizerta, and the Italian bases at Spezia, Cagliari and Taranto flank our line of communication.) Should such a contingency arise, we might have to rely on the other sea route to the East by the Cape of Good Hope, as our chief line of communication to the Indian Ocean.

*Comparison
of Distances
by the Two
Routes*

The effective change of distance and time if the Mediterranean route should be closed to us, is given approximately by the following table:—

<i>From Plymouth.</i>	<i>Via Suez Canal. Miles.</i>	<i>Time. Days.</i>	<i>Via Cape. Miles.</i>	<i>Time. Days.</i>	<i>Increase in Time. Days.</i>
To India ...	6,200	15	10,500	26	11
„ Sydney ...	11,200	28	12,300	31	3
„ Hong Kong	9,500	24	12,800	32	8
„ Singapore	8,100	21	11,400	29	8

It will be seen that the effect is greatest in the case of India and least in the case of Australia. The actual difference in time is, however, not a proper measure of the inconvenience; the serious problem would be the need for more ships, fuel, food, etc., to perform the same work of carrying men and materials to a certain point. In ships alone the effect would be, in the case of reinforcements to India, that nine ships would be required for every five required by the Mediterranean route; for Australia eight ships for every seven, and for Hong Kong and Singapore four ships for every three. This takes no account of the greatly increased cost of maintenance and supplies entailed by the longer voyage.

*A summary
of the British
position*

It remains to sum up our own position in the light of the foregoing. Our security in the Mediterranean depends on our fleet, on the safety of its two bases, Gibraltar and Malta, and on control of the Suez Canal ensured by our naval power, our military occupation of Egypt and in some degree by our mandate for Palestine. The defects of our naval bases have been mentioned. Gibraltar is restricted in area, not allowing room for expansion either as a harbour or an air anchorage. The line of communication to Malta from the west is closely flanked by two first-class naval powers. On the other hand,

however, we have many advantages. Gibraltar is a base from which our fleet can control the western entrance of the Mediterranean ; Malta is almost the geometrical centre of the Mediterranean, useful not merely as a naval base, but as a barracks from which troops can be sent quickly to any part of the near East.

Further, France and Italy are both dependent for many essential raw materials, such as petroleum, on sources external to Europe and the Mediterranean, and the denial of these supplies would greatly handicap them. Our control of the gateways at both ends of the Mediterranean gives us a powerful strategic weapon. As long as we retain control of these we hold the keys to French Indo-China, Madagascar, French and Italian Somaliland, and Eritrea. In fact, though a temporary closing of the Mediterranean to our traffic during war would be inconvenient to us, it would not necessarily be fatal as long as we maintained control of the entrances. It may further be added that only practical contingencies need be provided for and that a combination of France and Italy against ourselves in the Mediterranean is unlikely.

THE INDIAN OCEAN.

The Indian Ocean is almost a British lake. With the exception of Madagascar and Reunion, Portuguese East Africa, French and Italian Somaliland, Eritrea, Persia, a thin wedge of Siam between Burma and the Malay Peninsula, the Dutch East Indies, and a few minor French and Portuguese settlements, the whole coastline and all the islands are British or under British control. The area of these British lands is almost half the whole area of the Empire, and their population about four-fifths of its total population. In this region are situated the British owned world sources of wool, jute, tin, rubber, gold, tea and manganese, as well as the most important Imperial sources of petroleum. It contains in the Sudan, East Africa, Uganda, and India the most important potential areas for Empire grown cotton and maize. Its commerce is chiefly British. Almost every port of any importance is British. More than one quarter of the whole British mercantile marine is in its harbours or on its seaways at any

time of the year. Its cable system is completely under British control. There is no naval base of any other first class power in its waters.

A study of the history of this region reveals the fact that British control has been based on two fundamental ideas. The first of these is that no other great power should be able to establish a port or ports on the Indian Ocean, having land communications with its own arsenals and sources of supply.

*The Land
Gateways*

The second is the control by Great Britain of the limited number of gateways into this Ocean from other seas.

With regard to the first it is remarkable how singularly secure from land attack are the British possessions round the Indian Ocean. They are backed either by dense tropical country or desert, such as the Belgian Congo and French Central Africa, by the Arabian Desert, by the rocky mountain ranges of Southern Persia, by the impregnable barrier of the Himalayas, by the mountains and forests of Burma, or by the sea itself, as in the case of Australia. Through these natural land barriers there are only a very limited number of gateways by which attack on a large scale could be launched against our possessions fringing the Indian Ocean.

*India in
Relation to
Lines of
Communica-
tion*

India occupies the position of a keystone in the arch of the Indian Ocean, and in military, naval and even political matters it is the centre of gravity of all the British possessions in the East. It is the chief training ground for our army in the East, since the active service conditions on the North West Frontier provide a practical experience otherwise unobtainable. It is also, to a great extent, the centre of political and religious movements, which affect all our possessions round the Indian Ocean. It contains 70 millions out of the 250 million Mohammedans in the world.

In relation to lines of communication by sea, its naval headquarters, Bombay, is almost centrally situated with reference to the Cape, Egypt and Western Australia. For operations in Persia, Mesopotamia, Eastern Africa, Burma and the Malay Peninsula, it has been used as a base, and it would probably be from India that reinforcements would be sent, in the first place, in the event of an attack on Australia.

IMPORTANT HARBOURS OF THE INDIAN OCEAN

Aden to Bombay 1,600 miles.

Aden is a fortified fuelling station on a volcanic peninsula *Aden* about 100 miles north-east from the entrance to the Red Sea, and about half-way between Port Said and Bombay. It is a suitable position from which to control the junction of the Indian Ocean routes where they converge before entering the Red Sea. Situated on a rock, 5 miles long and 3 miles wide, connected with the mainland, as in the case of Gibraltar, by a narrow sandy isthmus, it is almost completely destitute of water and trees, has a climate which is very hot (average range of temperature from 76° to 91° in the shade), with little or no rainfall; but its harbour has been for over 1,000 years the focus of the trade from Abyssinia, French, British and Italian Somaliland, as well as from Arabia.

Little Aden, another peninsula to the immediate westward of the Aden peninsula, together with the coastline and mainland for a short distance, were obtained by purchase, making the total area of British territory about 80 square miles. The British protectorate, however, extends over a much larger area, including the Sultanate of Makalla, and Great Britain regards the whole of the southern coast of Arabia as a British sphere of interest. The chief disadvantages of the port are its climate, and the difficulty of obtaining water. A water supply is brought by aqueduct from wells at the village of Sheik Othman, but this is unsuitable for human consumption, and drinking water is supplied by condensers. Aden is now garrisoned by the Royal Air Force, and has, in addition, one heavy battery R.A. and one Fortress Coy. R.E.

The island of Perim lies in the actual entrance to the Red Sea. We occupied it as a precaution 60 years ago, and it is now an important fuelling and cable station. Socotra has a value similar to that of Cyprus, in that it might be used as a base for submarine attack against our shipping if held by a hostile power. It is completely undefended and is very sparsely inhabited, but has one good natural harbour at Kalenzia. *Perim, Socotra*

The defended fuelling station of Colombo on the western side of Ceylon flanks the routes from Great Britain to Cal- *Colombo and Trincomali*

cutta and Singapore, and from the Cape to Bombay and Calcutta, and, therefore, taken in conjunction with the Royal Naval dockyard at Trincomali on the north-eastern side of the island, is a most important position relative to the defence of our lines of communication in those waters.

Other Possessions of Importance in the Indian Ocean

Other possessions of importance in the defence of lines of communication in the Indian Ocean, are the defended fuelling and cable station of Pt. Louis (Mauritius), whose importance would be greatly magnified if the Suez Canal route should be closed, as it lies near the main tracks from the Cape to Colombo and Australia: the defended fuelling and cable station of Durban, which possesses ample supplies of good coal from the Natal mines; the defended fuelling stations Madras, Rangoon, Calcutta, and Fremantle; and the harbour of Kilindini in Kenya Colony, situated on an island connected by a bridge 1,000 ft. long with the mainland. Kilindini has been described as the best harbour on the east coast of Africa, and will become of greater importance with the development of our possessions in East Africa. Dar es Salaam is a good harbour, rapidly increasing in importance and Zanzibar, the Seychelles Islands and the Keeling or Cocos Islands (under control of Straits Settlements) are important as cable stations.

Port Louis, Durban, Kilindini, etc.

Delagoa Bay

The fine natural harbour of Delagoa Bay, though not British owned, is one of the most important positions in southern Africa. From Lorenzo Marques a railway runs, by way of Pretoria, to Johannesburg (400 miles), but the nearest point in the Transvaal is only 50 miles away. Further, Delagoa Bay lies at the mouth of the Mozambique Channel, through which our ships must pass going and coming between the Cape and other possessions on the east coast. The political status of this bay is therefore of some importance.

Under a treaty made in 1823 with the native kings, half of Delagoa Bay was granted to England, but Portugal claimed the whole of it, and the dispute was finally submitted to the arbitration of the President of the French Republic. He gave his award against Great Britain, but, by another agreement, the Portuguese Government bound themselves "not to cede or sell to any third power the territory known as Delagoa Bay, without giving Her Britannic Majesty's Government

the opportunity of making a reasonable offer for the purchase or acquisition by other arrangements, satisfactory to Portugal, of the territory thus awarded."

THE SEA GATEWAYS TO THE INDIAN OCEAN

Control of the sea gateways has been recognised as a fundamental basis of Imperial defence. Their geography and possibilities therefore require some comment. *The Cape Route*

The Cape Route to the Indian Ocean from Great Britain is less liable to effective naval attack than the route through the narrow waters of the Mediterranean. It can be varied and need not pass close to the ports of any first-class naval power. It is supplied with a fuelling station and defended anchorage at Freetown in Sierra Leone and with potential naval stations which might be improvised as naval fuelling stations again, as they were in the past, at Ascension and St. Helena. The harbours of Takoradi (Gold Coast) Lagos (Nigeria) and Walvis Bay could also be used for naval purposes. The Azores and Cape Verde Islands which lie close to the route are Portuguese, and Portugal has an old and well established alliance with Great Britain. The route passes fairly close to the naval base of Gibraltar and possesses a naval base at Simonstown near Cape Town. On the route to India, in the Indian Ocean, it has a defended port at Durban and a well developed harbour at Kilindini. Near the route to Australia is the defended harbour, Port Louis, in Mauritius.

Simonstown, near Cape Town, the naval base on this route, lies in a temperate climate, on a good harbour, remote from the naval bases of any other Power, in a country where industries can be developed and an adequate supply of coal is available, and in a position from which control can most favourably be exercised over the entrance from the Atlantic to the Indian Ocean. It is also centrally situated with respect to the chief embarkation ports of the British Empire. Thus it is about 4,600 miles from Bombay, 6,500 from Halifax (Nova Scotia), 5,800 miles from Melbourne and 6,000 miles from Southampton.

Its defence, together with that of the whole Cape Peninsula, was until 1921 the responsibility of the Imperial Government, and up to the outbreak of the War British troops were stationed

there. In 1921, however, it was decided that the Union Government should undertake the whole responsibility for the defence of South Africa, including the defence of the naval base. The British Government consequently handed over to the Union these defences, together with a large quantity of war material and stores, as well as the landed and other property. A graving dock has since been constructed at Durban capable of taking any but the largest type of battle cruiser.

*The
Australian
Gateway*

The entrance to the Indian Ocean round the south coast of Australia is so remote from the naval bases of any great Power that it is unlikely to be a scene of intense naval activity. It is provided with a naval base at Port Jackson (Sydney), the base of the Royal Australian Navy, and with defended harbours at Melbourne, Port Adelaide, Albany and Fremantle.

*The East
Indian
Gateways*

The remaining entrances to the Indian Ocean are through the gateways between the Dutch East Indies and Malaya. The most important of these are the Straits of Malacca, between Sumatra and the Malay Peninsula, and the Straits of Sunda, between Sumatra and Java. Singapore is the dominating harbour of this region. Its magnificent position at the eastern entrance to the Straits of Malacca attracts to it a large entrepot trade. More than fifty different lines of sea-going steamships use it as a regular port of call. It is the half-way house on the route from China and Japan to India. Further, from a naval point of view it is a central position suitable as a base from which the various entrances from the Pacific to the Indian Ocean could be defended; it is too far from the nearest naval power, Japan, to be attacked by air except by aircraft which are ship-borne; it is within easy reach of the oilfields of Burma and Sarawak and the coal of Labuan; it is the obvious support to Hong-Kong, 1,500 miles beyond it. It is only 1,600 miles from the important defended port and junction of trade routes at Colombo.

The necessity for a naval base in or near the Indian Ocean, capable of maintaining the largest ships of the British Navy, is obvious. Hong-Kong lies in the *status quo* area and cannot therefore be developed to maintain capital ships of the Post-Jutland type and, in any case, it lies at the outskirts of the

Empire and close to the naval bases of a first-class naval power. At present, in the event of a war in the Far East, our battle-ships would have to go 7,000 miles to Malta for repairs, with the additional risk of a damaged ship sinking in and blocking the Suez Canal. The choice of the situation for such a naval base must be largely governed by the necessity for (a) guarding the entrances to the Indian Ocean from the Pacific, (b) providing a central defended position suitable for the British, Australian and New Zealand squadrons. Sydney, the base of the Australian Navy, though admirably situated from a climatic point of view, and placed in the centre of a dense white population, fulfils neither of these necessary qualifications. The choice lies between Singapore and Trincomali, the excellent natural lagoon harbour and Royal Naval Yard on the eastern side of Ceylon.

Both these situations are unfortunately handicapped by a climate which is uniformly hot and humid. The establishment of a British naval base in such a climate is therefore a departure for which there is no modern precedent except the bases of the United States near the Panama Canal. The final choice of Singapore has no doubt been largely the result of its centrality with regard to Hong-Kong, Port Darwin, Colombo, Calcutta and Madras, its commanding position on the most important entrance from the Far Eastern waters to the Indian Ocean and its close proximity to the other entrances. It has received the ardent support of the Governments of New Zealand and Australia, the latter of which is considering the development of a secondary base at Port Darwin which would be a connecting link between Sydney and Singapore. Large contributions in money towards it have been made by the Malay States and Hong-Kong, and the land for it has been provided free of cost by the Government of the Straits Settlements.

The Singapore base lies between the island of Singapore and the neighbouring state of Johore, and on the eastern side of a railway viaduct joining the island to the mainland. The peninsula of Johore is wooded and hilly and could be made difficult of access to an enemy. The danger of attack on the base, by a landing in that locality, is therefore negligible in the face of a fleet based on Singapore. There are, however, a number of problems in connection with the situation. There is,

first, the question of internal security, which is complicated by the mixed population of the Federated Malay States and Straits Settlements. Thus, in 1921 the population of the Federated Malay States and Straits Settlements, consisted of 510,000 Malays, 490,000 Chinese, 305,000 Indians, 5,500 Europeans and 3,300 Eurasians, and since that date it is probable that the proportion of Chinese has considerably increased. Further, there is the proximity of many islands of the Dutch East Indies, the nearest of which is only a few miles from Singapore. The defence of these waters and of our naval base would consequently depend on our political understanding with Holland. And lastly, there is the constantly hot and humid climate of the region which makes sustained manual work difficult for the white man. This difficulty may be lessened by the establishment of hill stations in Johore or elsewhere in the Malay Peninsula, within easy reach of the garrison of Singapore.

CHAPTER VI

LINES OF COMMUNICATION. THE ATLANTIC OCEAN AND THE CARIBBEAN SEA

THE Northern Atlantic Ocean lies between the dense industrial population of Western Europe (450 millions) and the 130 millions who inhabit the industrial and agricultural areas of Canada and the United States. The South Atlantic is enclosed between the comparatively undeveloped continents of Africa and South America, whose resources of raw materials are of increasing importance to the manufacturing countries.

The South American continent is so far to the east of North America that the longitude of its western coastline is approximately the same as that of the east coast of the United States. The ports of the south of England are therefore approximately as near to South American ports as are those of the United States, while British ports are nearer to the harbours of any part of Africa.

The British Isles are therefore well situated for competition in sea trade on this ocean ; and this is reflected in the variety and importance of our interests even in South American States.

The chief lines of our overseas trade in the Atlantic, apart from the first section of the route to the East, by Gibraltar, are as follows:

- (a) The great wheat, petroleum and cotton routes from the United States and Canada.
- (b) The meat route from South America.
- (c) The West, South and East African routes bringing nuts, vegetable oils, gold, etc.
- (d) The routes from the West Indies, Mexico, Venezuela, and the Panama Canal, bringing sugar, petroleum (from Mexico, Venezuela and Trinidad), and mutton (from New Zealand).
- (e) The now comparatively unimportant Cape Horn route.

On or near each of these routes we possess important harbours, either defended or capable of being developed as defended harbours in time of war. These are the following : On (a), Halifax ; (b), Freetown ; (c), Freetown and Simonstown ; (d), Bermuda and Kingston ; (e), Port Stanley (Falkland Islands).

THE IMPORTANT BRITISH HARBOURS AND BASES IN THE ATLANTIC.

Halifax If the direct winter route from New York to Plymouth is traced on a globe, it will be found to pass fairly close to the coast of Nova Scotia. Halifax, the base of the Royal Canadian Navy, therefore flanks the approaches from the United States' main base at Newport to our Channel ports. It has a good ice-free harbour, covering 10 square miles, amply provided with dock accommodation. Since 1905, when the Imperial garrison was removed, Halifax has been garrisoned and fortified by the Permanent Active Militia of the Dominion. Its communication by rail with the industrial centres of Canada is by the Inter-Colonial Railway (Canadian National Railways), which—unlike the Canadian Pacific—does not pass through United States' territory. Should this line be menaced, it has good sea communication with Montreal by the Gulf of St. Lawrence, except during the winter.

Bermuda The British garrison station of Bermuda (capital Hamilton) flanks, not very closely, the direct route from Plymouth to the Panama Canal. There is a naval base and dockyard on Ireland Island, about 600 miles from the coast of North Carolina. It is almost equally distant from Halifax, Boston, New York and the Bahamas, and is a valuable connecting link with our West Indian possessions. Its distance from the chief base of supplies in Great Britain makes it doubtful whether the naval base could be used for a large fleet, and the movement of supplies from Great Britain necessary for such a concourse of vessels would be dangerous. Further, it is not developed as a first-class base and any attempt in time of peace to develop it as such would be inconceivable. The natural harbour accommodation is large, the sea entrances through the coral reefs narrow and deep, and with the use of minefields and submarines the islands could be made of

great strength. Should an airship route from England to the West Indies be established, Bermuda might perhaps be a port of call.

The Falkland Islands, about 500 miles to the N.E. of Cape *Port Stanley* Horn (Capital, Port Stanley) flank the approach to the Pacific by Cape Horn, and, though not defended or garrisoned, possess a valuable coaling and wireless station at Port Stanley.

The fortified fuelling station of Freetown, situated in Sierra Leone, is practically half-way between Plymouth and Cape Town, and forms a naval link between the two bases of Gibraltar and Simon's Bay. It flanks the approach from the northern to the southern Atlantic, at a point where the width is about 1,500 miles. *Freetown*

THE CARIBBEAN SEA

THE WEST INDIES

The expansion of the United States and the opening of the Panama Canal have diminished the strategic value of the British West Indies. Up to the year 1898, when the Spanish possessions changed hands, we were the greatest power in the Caribbean Sea; but the United States' virtual protectorate over Cuba, Haiti and Santo Domingo, its annexation of Porto Rico and purchase of St. Thomas, St. John and Santa Cruz, together with its protectorates over Panama and Nicaragua, and the construction of naval bases to protect the Canal, have made the United States paramount in these waters.

Nevertheless our interests in the West Indies still remain very considerable.

The West Indian Islands form roughly a semi-circle, commencing near the mouth of the River Orinoco and comprising Trinidad and Tobago, the Windward Islands, Barbados, the Leeward Islands, Martinique and Gaudeloupe (French), the Virgin Islands (U.S.A.), Porto Rico (U.S.A.), Haiti and San Domingo (U.S.A.), Cuba (U.S.A.), together with the Bahama Islands, lying to the north of the semi-circle and Jamaica lying within it. They are widely scattered, the length from north to south being 1,300 miles and from east to west 900. Almost all the islands are mountainous and well wooded, and their general symmetrical arrangement points to them as being the peaks of

a submerged mountain range. It naturally follows that where the mountain valleys were submerged, are now situated the many excellent harbours with which these islands are provided.

The British possessions are as follows :—

<i>Name.</i>	<i>Including :</i>	<i>Capital.</i>	<i>Exports.</i>	<i>Remarks.</i>
Bahama Islands ..	New Providence Watling Island	Nassau ..	Sponges to U.S.A.	Cable to Bermuda and Halifax. Port Royal (Kingston) is a naval defended fuelling station, 4,700 miles from Plymouth.
Jamaica ..	The Cayman Is. Turks & Cai- cos Is.	Kingston ..	Bananas, fruit, raw sugar, rum to Can- ada and U.K.	
The British Lee- ward Is. (the re- mainder of the Leeward Is. being mainly French)	Antigua & An- guilla, St. Kitts, Nevis, Montserrat, Dominica Barbuda	St. John ..	Limes and sugar.	Castries, one of the finest natur- al harbours in the world, a coaling and oil station.
The British Wind- ward Is.	St. Lucia .. St. Vincent, Grenada and the Grena- dines	Castries ..	Sugar, molasses etc.	
Trinidad ..	Trinidad Tobago	Port of Spain	Asphalt, petro- leum, also sugar, rum, and cocoa, coconuts	For petroleum see Chapter III. A Government floating dock and workshop at Port of Spain which is unde- fended.
Barbados ..	.. .. .	Bridgetown	Sugar, molasses & "Sea Is- land" cotton, used for finer types of cot- ton goods etc.	
And on the mainland :— British Honduras ..	.. .. .	Belize ..	Mahogany ..	About the size of Wales, consists of flat coastal plain, central uplands and high wooded interior.
British Guiana ..	.. .. .	Georgetown	Sugar, gold, and rubber, also molasses, rum, rice, diamonds, timber, baux- ite and balata	About the size of Great Britain. Physical geo- graphy similar to British Hon- duras.

*Population of
British West
Indies*

The total population of the British West Indies is about 2,000,000, to which should be added 45,000 in British Honduras and 400,000 in British Guiana. The races which make up these populations are composed of :—

- 1.—British—officials, planters and tradespeople.
- 2.—Negroes—the descendants of the emancipated slaves who form the large majority of the population, but show little inclination to work.

- 3.—East Indians—imported to take the place of the “work-shy” negro, and who, in the new climate with new surroundings, have proved a great success.
- 4.—Chinese.
- 5.—A few descendants of the original natives of the islands.

The inhabitants of British blood represent, only about 5 per cent. of the total population.

Proposals have been made from time to time to combine the British West Indian Islands under one central Government. At present each group of islands has its Governor and a number of officials, some of whom might be eliminated if a central Government could be introduced. A confederation might lead to greater development of those common trade interests, ports, communications etc., which are at present neglected. One important difficulty in the way of such a scheme is the fact that the British West Indian Islands are not compactly grouped, but are spread out over a very large area, and that the degrees of progress and political responsibility vary greatly in different groups. Thus, while the Bahamas and Barbados have had for many years almost complete self government, the island of Trinidad possesses only a very limited control over its own affairs. Further, most of the trade of the islands is with the United States, Great Britain and Canada, and there is little inter-Colonial trade to act as an economic bond, or stimulate common interests.

*Proposals
for Con-
federation of
British West
Indies*

The success of a confederation would depend in part on the provision of the better facilities for communication between the various groups already referred to. A step in this direction was taken in 1924 by the extension of the present All-Red cable route from Turks Island to Barbados, with branch lines to Trinidad and British Guiana, which placed three of the eastern colonies in direct communication with Jamaica, Bermuda and Halifax. Wireless communication has also been established between Barbados, and St. Lucia, St. Vincent, St. Kitts, Antigua and Grenada.

THE EXPANSION OF THE UNITED STATES.

The expansion of the United States in territory, overseas trade and naval power, has been the most significant feature of

*The Monroe
Doctrine*

the Atlantic lands during the nineteenth and twentieth centuries. Within 50 years of its inception as an independent state it had, by conquest, purchase and occupation, increased its territory on the mainland of America threefold. A period of internal adjustment and development followed, during which the vast resources of the country occupied the energies of its people almost to the exclusion of external interests.

After the Spanish-American War, however, there came a period of colonial expansion, the results of which are shown in the following table :—

<i>Name.</i>	<i>Date.</i>	<i>Relationship.</i>	<i>Area in sq. miles.</i>	<i>Population.</i>
Hawaii ...	1898	Annexed ...	6,450	250,000
Cuba ...	1898	Protectorate ...	44,000	2,900,000
Porto Rico ...	1898	Annexed ...	3,600	1,250,000
Philippine Is. ...	1898	Annexed ...	115,000	8,500,000
Guam ...	1898	Annexed ...	210	14,500
Tutuila (Samoa)	1899	Annexed ...	80	7,300
Panama ...	1903	General supervision...	32,400	450,000
Santo Domingo	1907	Supervision of finances and administration	18,500	955,000
Haiti ...	1915	Supervision of finances	11,000	2,500,000
Nicaragua ...	1913	Virtual Protectorate		
	1916	Grant of canal rights and naval bases to U.S.A.	49,500	746,000
Virgin Is. ...	1917	Ownership by purchase	130	28,000
TOTALS ...			280,870	17,600,800

This expansion was partly the result of a desire to safeguard the American continent from any form of occupation or exploitation by non-American Powers. It has, in some cases, arisen from developments of that Doctrine first enunciated by President Monroe at a time when the Holy Alliance under the leadership of Russia was contemplating interference in South America with the object of bringing the Spanish colonies there back to their allegiance to Spain. As originally enunciated in 1829 this Doctrine was as follows :—

“The American continents by the free and independent conditions which they have assumed and maintain are henceforth not to be considered as subjects for future colonization by any European Powers.”

In the hundred years which have elapsed since its enunciation it has, gradually increased in scope. For instance, when the de Lesseps' scheme for a Panama canal was floated in 1879, a resolution was passed in Congress to the effect that "The people of these states would not view without serious disquietude any attempt by the Powers of Europe to establish under their protection and domination a ship canal across the Isthmus of Darien, and such an action could not be regarded in any other light than as a manifestation of an unfriendly disposition towards the United States." A compromise was arranged by which American shareholders obtained shares in the undertaking and were involved in its subsequent collapse, but the United States had, by invoking the Monroe Doctrine, staked its claim to the Panama isthmus.

Later still, in 1895, when a crisis arose between Great Britain and Venezuela with regard to a long outstanding boundary dispute in connection with British Guiana, the United States Government intervened with a demand that the question should be settled by arbitration. Lord Salisbury, then Premier of Great Britain, refused and the American Government retorted with an announcement that it would send a commission to investigate the boundary for itself, the implicit grounds being that, by the Monroe Doctrine, the United States was an official arbiter in disputes between American states and European powers over questions of territory. About the same time, the scope of the Doctrine was defined by Secretary of State Olney. "The United States is sovereign on this continent, and its fiat is law upon the subjects to which it confines its interposition." This came close to a definition that the whole of the Americas was a protectorate of the United States.

At other times the Doctrine has been further extended to meet obligations created by itself. Gross financial mismanagement has occasionally been a feature of Latin-American governments. European creditors of these governments have naturally looked to the United States for redress, in view of the fact that their own countries were debarred from direct action by the Monroe Doctrine, and the United States has been forced to accept responsibility. In this way, the financial inefficiency of Santo Domingo, Haiti and Nicaragua have led

to their becoming financial protectorates of the United States.

The Monroe Doctrine now embraces the whole American continent and all islands adjacent thereto. It includes all territories near the Panama Canal, and there is no doubt but that it would be invoked, if necessary, to include the Galapagos Islands or any other group from which an attack on the American Continent might be launched. It refers not merely to territorial aggression but to financial and commercial inroads which might be used for political purposes. Its sole interpreter and guardian is the United States. It is, in fact, difficult to draw any distinction between it, as it now stands, and a declaration that the whole of the American Continent is a sphere of influence of the United States. It is not very different from the attitude of the average Briton towards those lands round the Indian Ocean which have a bearing on the security of the Empire. We regard Egypt, Arabia, Persia, Afghanistan, Siam and the Dutch East Indies in much the same light as the United States regards the countries of South America or the Caribbean Sea—as countries which must not be subject to encroachment by any foreign power who could threaten our safety.

*Growth of
Population
and Trade*

The expansion in territory of the United States has been no more remarkable than its growth in population and trade. Thus in 1800 the population of the United States was 8 millions; in 1900 it was 97 millions; to-day it is estimated as being over 120 millions.

It is the chief producer in the world of 13 important minerals, including the vital commodities, coal, iron and petroleum. It is the chief producer of cotton, wheat and maize. Nearly every important mineral is found in its territory, and the only raw materials of great importance for which it is dependent on external and foreign sources are rubber, tin, nickel, tungsten and manganese.

Its export trade is now the greatest in the world; its total foreign trade is second only to that of the British Empire, and is greater than that of Great Britain. It owns 11 million tons of ocean shipping to-day as against 2 million tons in 1914.

*Growth of
Naval
Power*

Between 1914 and 1918 American Naval tonnage increased by more than 50 per cent.; and it was clear that the United States was no longer content to have a Navy inferior in size

to any other Navy in the world. Its desire for Naval equality with the British Empire was and still is chiefly based on the necessity for safeguarding the enormous foreign trade of the United States in time of war ; and for ensuring the free passage of American cargoes to any port, should the United States be either a belligerent or a neutral. It has been felt that the only method of ensuring this sea traffic is by the possession of a Navy sufficiently large to deter any other great Naval Power from interfering with American shipping in time of war. The desire is based, therefore, mainly on export sea trade, though there are a number of essential commodities imported, and in this respect challenges comparison with the necessity for sea power in the British Empire which depends on it for the essentials of life and the supply of raw materials in Great Britain, and for vital supplies of manufactures in the Dominions and Colonies.

Equality between the Navies of the British Empire and the United States was agreed on in principle, with regard to capital ships and aircraft carriers in the Five Power Naval Treaty signed at Washington in February 1922, the provisions of which (as far as they relate to naval forces) were briefly as follows :—

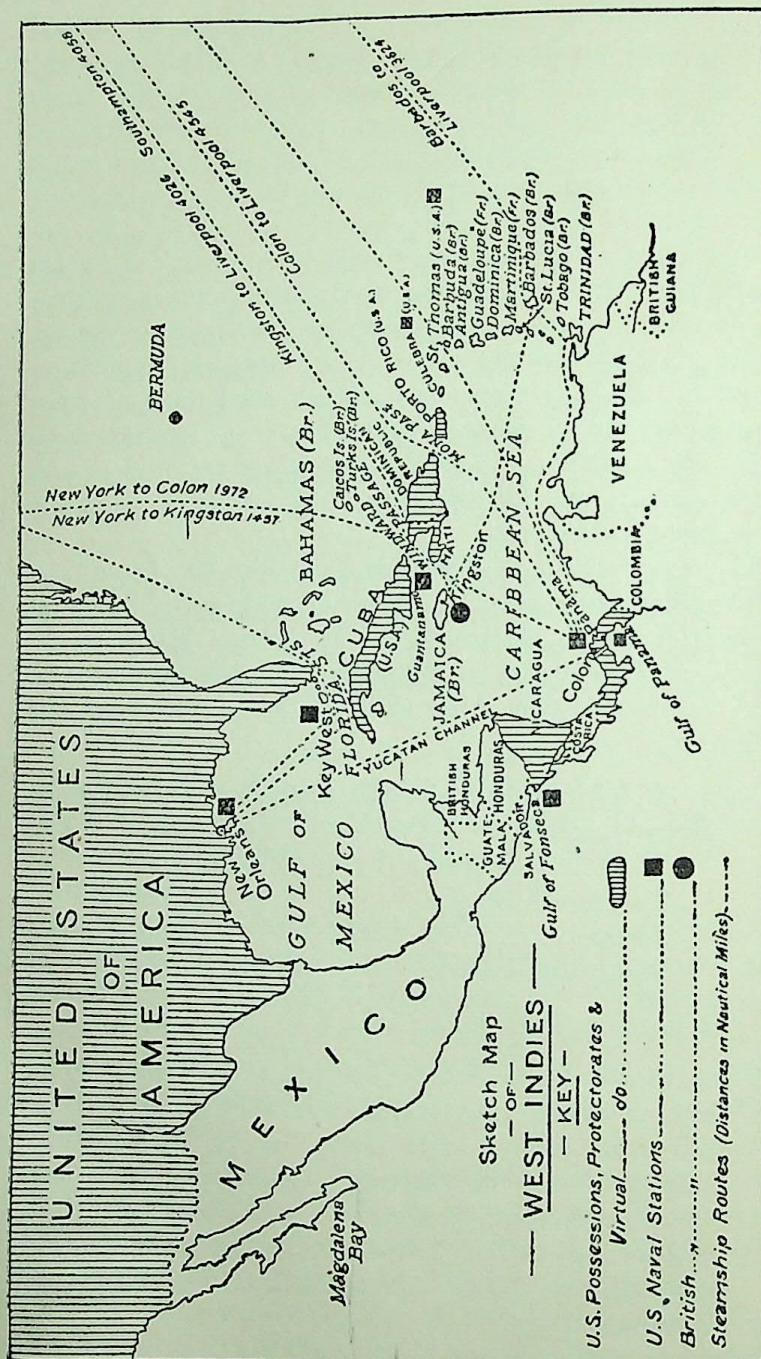
- (1) The Capital ship replacement tonnage for the contracting powers should be limited to :—

The United States	..	..	525,000
The British Empire	..	..	525,000
Japan	..	..	315,000
France and Italy	..	..	each 175,000

or, in the ratio 5 : 5 : 3 : 1.66.

- (2) This treaty also limited the tonnage of individual capital ships to 35,000 tons, and the calibre of guns to 16 in. Individual cruisers were limited to 10,000 tons, and their guns to 8 in. Aircraft carriers were limited in general to an individual tonnage of 27,000 tons, with a total tonnage of 135,000 tons for the United States and Great Britain, 81,000 tons for Japan, 60,000 tons for France and Italy.

No provision was made however in this Five Power treaty



MAP 9.—The Gulf of Mexico.

for a limitation of the total tonnage of cruisers which the powers concerned might build, and Great Britain whose vital lines of communication are longer than those of any other power, has had a superiority in this respect, partly balanced by an American superiority in destroyers and submarines. Since 1922, various efforts have therefore been made, notably at the Geneva Conference of 1927, to bring about complete naval equality between Great Britain and the United States. This was eventually achieved to a great extent by the London Naval Treaty of 1930, by which exact naval parity was established between the two Powers in capital ships, aircraft carriers, torpedo boat destroyers and submarines. With regard to cruisers, a compromise was adopted, by which an American superiority in heavy cruisers should be balanced by a British superiority in light cruisers and a slight British superiority in the aggregate tonnage of cruisers as a whole.

EFFECTS ON THE CARIBBEAN SEA.

The effects of the expansion of the United States in territory and sea power have been far-reaching, and their effects on the British naval position in the Caribbean Sea are particularly marked.

The routes for shipping passing from the Atlantic to that sea are as follows :—

- (1) The Florida passage, between Florida and Cuba, which is the natural route for traffic from the east coast of the United States, to the Caribbean Sea.
- (2) The Windward passage, between Cuba and Haiti, across which lies Jamaica with its British defended coaling station—Port Royal, Kingston.
- (3) The Mona passage, between Haiti and Porto Rico.
- (4) The South-East passage between Trinidad and Barbados, which is the natural route for traffic to the Canal from the east coast of South America.

It will be noticed that the last is the only one of the four gateways which is flanked by British territory.

The United States' naval bases and stations in the vicinity of the Panama Canal are as follows :—

*American
Naval Bases
near the
Canal*

New Orleans—on the mainland.

Key West—at the end of the string of Florida islands now joined by a concrete viaduct, and in railway communication with the mainland. Controls the Florida passage.

Guantanamo—at the eastern end of Cuba; controls the Windward passage.

Culebra—an island off Porto Rico. Watches the Mona passage.

St. Thomas Is.—flanks the South-east passage.

Colon—guards the Caribbean entrance to the Panama Canal.

The only fortified British harbour in these waters is the defended oil and coal bunkering port of Kingston, Jamaica. There is, also, the important but undefended harbour of Castries in the island of St. Lucia.

The general situation may therefore be summed up as follows. The Gulf of Mexico and the Caribbean Sea are enclosed by a ring of American stations and possessions. Prior to the development of American sea power, this was a matter of little importance, but the naval balance of these waters has now altered—particularly in reference to Jamaica. Admiral Mahan, writing some years ago with regard to Jamaica, stated that its strategic position was one of the most important in the world. His reasons were as follows: Owing to its position, it commands the Windward passage and flanks the direct route from New Orleans to the Panama Canal; it is nearer to the Canal (700 miles) than it is to New York (1,200 miles); the principal harbour, Kingston, is in a good position and the island is amply supplied with food. But it can hardly be credited with the same strategic importance to-day. It is enclosed within a ring of American naval ports, which might be used as centres of operation for a fleet approximately as large as our own.

CHAPTER VII

LINES OF COMMUNICATION.—THE PACIFIC

THE Panama Canal, through the narrow isthmus of Panama, is as important to the United States as the Suez Canal is to Great Britain. Its chief features of comparison with the latter are tabulated in the following section.

Panama Canal.

1. The Panama Canal is the sole property of the United States. It is not owned by a company or shareholders. In return for a guarantee of independence and a money payment, the Republic of Panama granted in 1903 to the United States in perpetuity, the use, occupation and control of a zone 10 miles wide and extending 3 nautical miles into the sea at either terminal. They also granted the use of all lands lying outside the zone necessary for the construction of the Canal, and the islands in the Bay of Panama. The cities of Panama and Colon were not in the Canal zone, but the United States assumed the control of their sanitation and the maintenance of order in them.

Suez Canal.

1. The Suez Canal is not owned by any Government but by a company, the largest single shareholder in which is the Government of Great Britain, which owns $\frac{7}{16}$ of the shares.

2. By the Hay-Pauncefote treaty concluded between Great Britain and the United States in 1901, it was agreed "that the Canal shall be free and open to the vessels of commerce and of war of all nations, in peace or war, on terms of equality."

3. In apparent contradiction of this, it has been elaborately fortified by the United States against naval and land attack. The canal zone has been depopulated of landowners and made a military reservation.

4. It has a length of 50 miles, minimum depth of 41 feet, and the average time of transit is 7-8 hours.

5. It has a total rise and fall of 85 feet in crossing the Isthmus, and for this purpose requires 6 duplicated locks.

2. By the Convention of Constantinople (1888), signed by all the Powers of Europe, it was declared neutral, "free and open in time of peace and war to all vessels of commerce or war without distinction of flag."

3. It is unfortified, but the security of the Suez Canal for the British Empire is guaranteed by a British occupation of Egypt, and the Mandate for Palestine.

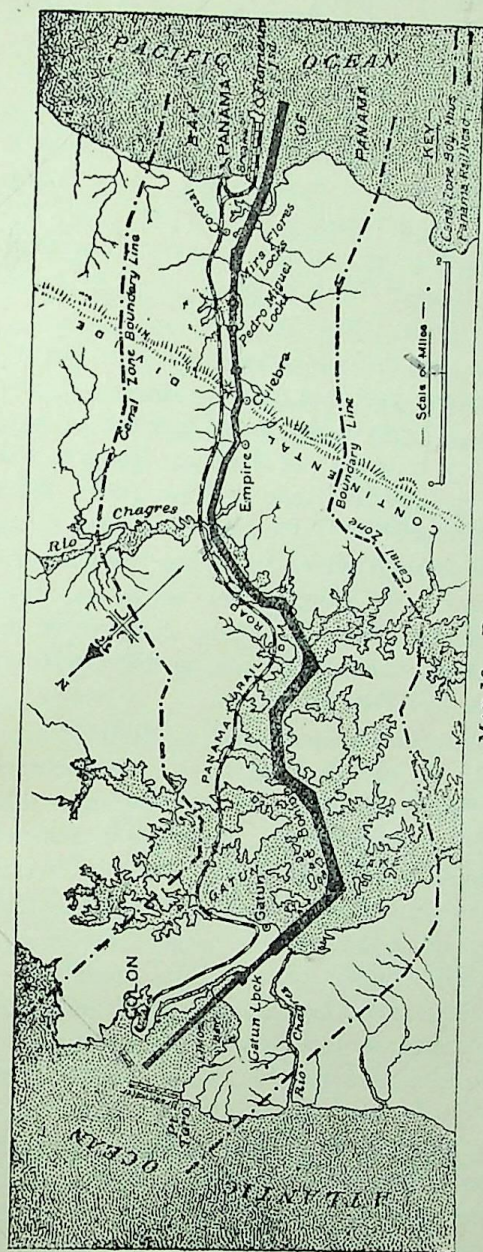
4. It has a length of 106 miles, a depth of 34-38 feet, and owing to the limited speed allowed through the Canal the average time of transit is $15\frac{1}{2}$ hours.

5. The Suez Canal is a sea to sea canal, without locks, the difference in mean tide level between the Mediterranean and Red Sea being only 6 inches.

*Effect on
British Lines
of Communi-
cation*

The effect of the Panama Canal on sea routes from Great Britain is mainly in relation to the west coast of America and New Zealand. All ports north of Panama on the American coast, including of course Vancouver, are brought approximately 6,000 miles nearer to Liverpool. All ports south of Panama are brought on an average 2,600 miles nearer. The ports of New Zealand are brought 1,500 miles within easier reach. On the other hand, it does not bring any port in the East Indies, or any ice-free port in Asia nearer to Great Britain.

The gain of the United States is of course much greater.



MAP 10.—Panama Canal.

The entire length of the canal from deep water in the Atlantic to deep water in the Pacific is about 50 miles. Coming from the Atlantic, vessels traverse Limon Bay by the Approach channel (seven miles) to Gatun, where they pass through a flight of three locks, and are thus lifted to the level of the Gatun Lake, an artificial lake covering 164 sq. miles which was formed by the construction of the Gatun Dam and the subsequent accumulated floodings of the mountain streams. Through the Gatun Lake vessels steam at full speed for a distance of about 24 miles, thence passing through the Culebra Cut, over a distance of about nine miles to Pedro Miguel Locks. Here they are lowered 30 feet, entering a small lake over which they steam $1\frac{1}{2}$ miles to Mira Flores, where they are again locked, this time to the sea-level channel ($8\frac{3}{4}$ miles) by which they pass to the Pacific Ocean.

*Effect on
American
Lines of
Com-
munication*

The Canal reduces the distance by sea between New York and all ports on the western seaboard of America north of Panama by about 9,000 miles, and in the case of the western ports of South America the gain averages nearly 5,000 miles. New York is now nearer to Japan, the Philippine Islands, New Guinea, and all the eastern ports of Australia and New Zealand than it was. Wellington in New Zealand has been brought 3,000 miles closer to New York than it is to Liverpool. Sydney which previously was 1,500 miles nearer to Liverpool (via Suez) than to New York (via Cape of Good Hope), is now 2,500 miles nearer New York than it is to Liverpool.

As figures of this kind are difficult to grasp, the comparison may be expressed very roughly on a map, by drawing a line from Pekin to Adelaide. Ports to the east of this line are now nearer to New York than they are to Liverpool; ports to the west of it are nearer to Liverpool than to New York. This line we may call therefore the "Panama and Suez competitive line" for it represents where the competition begins between the two routes. If another line is drawn from Brisbane to the north-west corner of Japan, all points in its neighbourhood will be approximately equal in distance from Liverpool by the Suez and Panama routes.

*Effect on
British
Trade*

The net result is that the Panama Canal, as a link of communication for the trade of the Empire, is of importance chiefly in relation to British Columbia and New Zealand. The sea road from British Columbia to the home ports is lessened by 6,000 miles, and much traffic which would have gone by rail, 3,000 miles across the Continent, to be shipped at Montreal, now takes the all-sea route through the Canal. The reason for this is obvious. Ship transit per ton costs roughly one-tenth of the cost of rail transport over a specified distance. In the case of British Columbia, for instance, the cost per bushel of wheat from Edmonton via Montreal to Liverpool is 47 cents, while the cost from Vancouver via the Panama Canal is 37 cents. If we draw a line north and south through Regina, we have what might be called the "economic divide" which separates the portions of Canada which naturally prefer the eastern and western routes. The cost of transport per ton from any point on the line, is approximately equal either by the Panama Canal or Montreal to Great Britain. The great value

of this new route as far as British Columbia is concerned, has been shown by the enormous increase in the amount of wheat shipped from Vancouver during the last few years.

It is also shown by the development of shipping and steamship lines, which are rapidly making Vancouver the Liverpool of the Pacific. When it is considered that the site of this city was almost unbroken wilderness in 1885, that its first steamship line started in 1891, and that to-day there are many regular shipping lines, the awakening in this part of the Pacific can be realised. In this connection, the table of comparative distances between ports of the Empire via the Suez Canal, Cape Route, or Panama Canal, is of interest, as it shows the comparatively central position that Vancouver now occupies among the ports of the Empire.

<i>To</i>	<i>From Liverpool,</i>	<i>From Halifax,</i>	<i>From Vancouver,</i>
Aden	4,573	5,968	10,727
Alexandria	3,060	4,465	10,197
Auckland	11,163	9,471	6,205
Bombay	6,223	7,618	9,536
Calcutta	7,865	9,260	8,639
Cape Town	6,076	6,430	10,527
Colombo	6,665	8,060	8,586
Georgetown	3,935	2,290	5,581
Hong-Kong	9,652	11,060	5,800
Melbourne	11,018	10,327	7,347
Shanghai	10,394	11,050	5,230
Singapore	8,211	9,606	7,089
Sydney	11,501	10,082	6,848
Wellington, N.Z. ..	11,058	8,866	6,447
	111,394	114,553	108,759

The effect in the case of New Zealand is less noticeable. Except for rapid passenger and mail services, sea trade tends to take a route by which there are many important ports of call, provided the disparity in distance is not too great. The more ports of call, the greater is the volume of trade carried, and the smaller the cost per ton per mile incurred. As the

journey across the Pacific to New Zealand is one which does not give an opportunity for this type of local trade, the route via Australian ports, Colombo and the Suez Canal, has not suffered to any extent, nor, for the same reason, has the advantage in distance gained by New York given any great advantage in trade to America, or tended to cut British manufacturers out of New Zealand markets.

*Effect on
Defence*

While the Panama Canal is of commercial use to us, its value as a means for defending our lines of communication is open to doubt. The two powers who are most likely to concern us in a war in that part of the world are the United States and Japan. If the former were hostile, the Panama Canal would be closed by its own fortifications at Colon and Balboa, as well as by the naval stations and naval activity in the Caribbean and Gulf of Mexico. If we were at war with Japan, and the United States were neutral or even our ally, the Panama Canal would still not possess advantages to compensate for the long journey across the Pacific, far from our important bases of supply. Even assuming that this journey might be comparatively safe, owing to the huge area of the ocean itself and the great variety of routes which would make submarine activities more dispersed and consequently less efficient, there is another point to be considered. In such a war the naval campaign would probably centre round our lines of communication with Australia and New Zealand, and the entrances to the Indian Ocean. Under these circumstances the region of concentration would probably be in the neighbourhood of Singapore, and the natural and shorter routes of the Suez Canal and Cape would be the safest, as well as the most useful.

*The Effect
on U.S.A.
Defence*

The Panama Canal is as much the strategic neck of the territories of the United States as the Suez Canal is of the British Empire. By means of it the American fleet can now concentrate in either ocean. Its natural defences from the land side are tropical forests and a rugged country—as difficult a theatre of operations as the desert which helps to make the Suez Canal secure from the Sinai side. These natural defences have been made full use of; concrete barracks have been placed at each of the locks and at the terminals; Field France, near Colon, is the site of a great air station, and the fortifica-

tions of Colon and Balboa—reinforced by minefields—are considered by American authorities to make the canal impregnable from sea attack.

Prior to the construction of the Panama Canal by the United States, a survey was made of a possible canal route across the peninsula in the territory of the State of Nicaragua. This proposed route follows the San Juan River to Lake Nicaragua and thence runs across land to the Pacific. The scheme, after much consideration, was shelved in favour of the shorter Panama route, but in 1916 the United States purchased a grant of the Canal rights from the state of Nicaragua, over which it wields a virtual Protectorate, together with the right to construct a naval base at Fonseca Bay at the Pacific end of the proposed canal and the lease of two small islands in this bay for defensive purposes. If traffic on the Panama route should become congested in the future it is probable that the United States will eventually proceed with the construction of the Nicaraguan Canal. *Proposed Nicaraguan Ship Canal*

Strategically, it would enable the United States Navy to concentrate in the Atlantic or the Pacific in half the time, as two entrances would be available instead of one; and the distance from Key West or New Orleans to the Gulf of California would be shortened by 600 miles. It would, however, increase the responsibilities of the United States in so far as there would be two passages to watch and guard instead of one.

A SHORT HISTORICAL SKETCH

The penetration of the lands in and round the Pacific Ocean by European Powers was one of the outstanding features of the nineteenth century. A search for markets and raw materials overcame the seclusion of China and Japan. Ports such as Amoy, Foochow and Canton were opened to foreign trade as concessions. An International Settlement and a French Concession were established at Shanghai. Hong-Kong was obtained by Great Britain as the result of one war in 1842 and Kowloon as the result of another in 1861. Russia secured Nicholaievsk in 1858 and Vladivostock in 1861, as two ports on the Pacific from which to enter that arena. France annexed *The Penetration of the Pacific by European Powers*

Annam in 1874 and Great Britain completed the conquest of Burma in 1888. In 1899, ostensibly in reparation for the murder of two German missionaries, Germany obtained a lease of Kiaochao for 99 years. In the same year Russia obtained a lease of Port Arthur for twenty-five years, and thus established a naval base, on an ice-free port near to Japan and controlling the sea entrance to Peking. Great Britain, as a compensation for this, demanded the "Kowloon Extension" to Hong-Kong, and a lease of the Wei-hai-wei peninsula from which to over-look Port Arthur; and France obtained Kwangchowan.

*Growth in
Population*

In the meantime, also, the lands round the Pacific were expanding in trade and population. Thus, in 1800 the white population of Australia was 5,217, all settled in New South Wales: in 1920 it was 5,411,000. Similarly, in Canada, in 1800, it was about 400,000; to-day it is over 9 millions. The United States increased from 8 millions to almost 120 millions in the same time. China increased by 100 millions and Java by 30 millions. Harbours such as San Francisco, Vancouver, Sydney, Hong-Kong and Singapore, once ports only for local traffic, developed into harbours of international importance. Land communications were extended towards the Pacific. Transcontinental lines connected the Atlantic and Pacific Oceans, and the construction of a Panama Canal brought the western sea board of North America 6,000 miles nearer to Europe. During this period also, all the island groups of the Pacific were partitioned between the various Great Powers.

*Development
of Com-
munications*

*The rise of
Japan*

This European penetration of the Pacific lands was in part, the cause of the extraordinary rise of Japan from a state of feudalism to the rank of a first-class Power. Modernisation was adopted by the Japanese as an alternative to European exploitation. The feudal form of government was abolished in 1868. The first railroad was built in 1870. In 1872 universal military service was introduced. In 1875 she obtained from Russia the Kurile Islands, in order to round her dominion in the north; and in 1876 she seized from China the Ryu Kyu (Lu-Chu) Islands. After a war with China (1894-5) she obtained Formosa and the Pescadores, and Korea, until then a Chinese Province, was declared independent. In 1902

she made an important alliance with Great Britain on terms of equality, thus signalling her advent as a first-class Power; in 1904-5 she defeated Russia, and by the ensuing Treaty of Portsmouth took over control of the South Manchurian Railway and obtained the lease of the Kwangtung Peninsula and Port Arthur, previously held by Russia. At the same time she extended her territory in the north, by obtaining the southern half of the island of Sakhalin. In 1910 she completed her control of Korea by annexation.

Another striking feature of the nineteenth and twentieth centuries is the rise of the United States as a colonial power, chiefly in the Pacific. Alaska was purchased from Russia. In 1898 the Sandwich Islands were annexed and a naval base was established at Pearl Harbour. After the Spanish American War, the Philippine Islands were purchased from Spain, and Guam was annexed at the same time in order to provide a stage on their line of communication to America. Tutuila and some smaller islands of the Samoan group were also annexed in 1898. Later still, in 1903, a virtual protectorate was declared over the new republic of Panama and the American construction of the Panama Canal began. In 1913, Nicaragua became a protectorate and the United States, three years later, obtained the right to construct an isthmian canal through that country also and to defend it by a naval base at Fonseca Bay. Finally in 1916 the Panama Canal was opened, giving a new gateway from the western world to the Pacific, of special value to the United States because it enabled that country to concentrate its forces more rapidly in either the Atlantic or Pacific than is possible for any other Power.

Great as has been the development in trade and growth of population of the lands round the Pacific, there are many considerations which suggest that this process of development must continue. Some of these lands are at present underpopulated. The following table comparing the populations of several countries and their arable areas is suggestive in this connection.

*The rise of
the United
States as a
Colonial
Power*

*Further
Growth in
Population
of Pacific
Lands
Likely*

ARABLE LAND AND POPULATION COMPARED, 1924

		Area (unit = 10,000 h.) of arable land.	Population (10,000's) of	Population per hectare ¹ of arable land.
PACIFIC COUNTRIES.	United States	13,820	11,250	·79
	Canada ..	2,750	920	·33
	Australia ..	870	564	·33
	New Zealand	74	130	1·7
	China ..	?	44,490	?
	Japan ..	620	5,900	9·5
	Great Britain	570	4,370	7·61
	Germany ..	2,020	6,260	3·10
	France ..	2,290	3,918	1·71
	Italy ..	1,320	3,960	2·99
OTHER COUNTRIES.	Belgium ..	120	770	8·29
	Holland ..	90	720	7·79
	Denmark ..	260	350	1·29
	Argentina ..	2,130	950	·45
	Brazil ..	760	3,060	3·98
	India ..	12,210	31,880	2·61

This table shows the striking variation which exists, and emphasises the capacity, particularly of the United States, Canada, Australia and New Zealand, for larger populations than they hold at present. The same applies to the Pacific coast states of South America. All of these are advertising for settlers. Eastern Siberia, Manchuria and perhaps Mongolia also could support more people. Borneo, four and a half times the size of England has one-eighteenth of its population, and Celebes, one and a half times the size of England, has only one-thirteenth of the population. Papua is twice the size of New Zealand and considerably larger than Japan but its population is less than 800,000.

There is, in fact, a capacity for a much larger population than that which at present inhabits the Pacific countries as a whole, and there is a reasonable probability that at some time in the future, when lands such as the United States, Canada and Australia are inhabited by the populations which their areas and resources could support, more than half the total population of the globe may be grouped round this ocean.

¹One hectare equals approximately $2\frac{1}{2}$ acres.

JAPANESE PROBLEMS

In Japan, on the other hand, there is little scope for further rapid increases in population. Indeed, reference to the table quoted above will show that its density of population, compared with its arable area is greater than that of Great Britain. The main islands have an area only one-twentieth of that of the United States, but support a population of 60 millions, *i.e.*, more than half as large, and if all the Japanese territories, Korea, Formosa, etc., are included, the density of population per square mile is 320, as compared with 22 in California and 1.5 in British Columbia.

Further, it should be noticed that Japan is a mountainous country, much of which is barren and volcanic, and that the area capable of cultivation does not amount to more than 16 per cent. of the whole. Japan is therefore, at present and, will be dependent increasingly in the future, for much of her food supplies on external sources.

Also, she is not rich in basic raw materials of industry. Coking coal, for smelting purposes, must be imported. Iron ore is fairly widely found, but is not rich in the metal, and large amounts are obtained from China. She is dependent also, like Great Britain, on external sources for the important staples of industry and movement, cotton, wool and petroleum.

Apprehensions that Japan would attempt to solve the problems associated with her great population by the occupation of other countries have led the white countries which touch the Pacific, to legislate against undue immigration of coloured races into their lands. Thus, the Immigration Act of Australia (1901-25) virtually prohibits Japanese labourers from entering the Commonwealth. The Dominion of Canada has a "Gentleman's Agreement" (1908) which limits the number who come yearly to 150. The Immigration Restriction Act of 1920 in New Zealand states that no person other than a person of British birth and parentage may enter New Zealand unless he is in permission of a passport or permit; and these permits are given very sparingly. The United States had, like Canada, a "gentleman's agreement" with Japan (1907-8), but in 1924 passed an immigration act which prohibited the immigration of all aliens ineligible for citizenship, and as the courts in the United States have declared that

Japanese are ineligible for citizenship, all Japanese are now excluded from the United States, except students, merchants, tourists and others travelling on passports.

*Japanese
Interests in
China*

Japan's two problems are, therefore, (a) how to support a large population in a country of small agricultural resources ; (b) a need for raw materials for industry in order to produce manufactures which can be exchanged for food. The latter problem has led to Japanese penetration in China and particularly in Manchuria. For instance, by the Treaty of Portsmouth (1905) Japan took over from Russia the lease of the Kwangtung peninsula, which she had been juggled out of after the Chino-Japanese War nine years previously. At the same time she also obtained control over the whole South Manchurian Railway system which runs as far north as Changchun, where it meets the broad-gauge line (5 feet) of the Chinese Eastern Railway. The Japanese management of the S.M.R. has been more than a purely commercial undertaking. Japanese troops keep order in a narrow belt of territory along its lines. It owns iron and coal mines, such as the coal mines at Fushun near Mukden ; and the Japanese Government holds a large number of the shares in the whole undertaking.

Further, a policy of obtaining control for Japan of basic minerals and other raw materials in China has been carefully followed. The climax of the policy was reached in the "twenty-one Demands" presented to China in 1915 at a time when the other countries were preoccupied with war. Demands 1 to 4 gave Japan all German rights in Shantung where there are important iron fields : 5 to 11 completed Japanese control of South Manchuria ; 12 and 13 gave her large coal and iron concessions ; 14 forbade cessions of territory, coast or island, to any other Power. Though these demands were in some cases (*e.g.*, 1 to 4) abrogated later, and in other cases made less comprehensive, Japan obtained by them valuable privileges, and they are extremely significant of the importance attached by Japan to China, and to Manchuria in particular, as sources of raw materials.

PROBLEMS CREATED BY POST-WAR SETTLEMENT

Some new problems were created in the Pacific lands by the distribution of the German possessions there, after the war. These German colonies were as follows :—

North of the Equator—Marianne or Ladrone Islands ; Yap and the Palau Islands ; the Caroline Islands and the Marshall Islands.

South of the Equator—German New Guinea, with adjoining archipelago, Nauru and German Samoa.

By an agreement made with Great Britain in 1916, Japan was to obtain the German islands north of the Equator, and Great Britain all those to the south. This agreement was subsequently confirmed by the Peace Conference which made Japan the mandatory Power under the League of Nations for the islands north of the equator. Mandates for those south of the equator were distributed in the British Empire as follows :—

Australia—the mandate for German New Guinea with adjoining archipelago ;

New Zealand—for German Samoa (Western Samoa) ;

British Empire—for the island of Nauru.

As mandatory powers under the League of Nations, Japan and the British Empire are expected to observe certain conditions ; the islands should remain unfortified, the rights of other nations should be protected, and there should be a reasonable approach to equality of opportunity for trade.

By this distribution it will be seen that Japan obtained a long sa.ient into the central Pacific between the United States and her most important colonial possession—the Philippine Islands. This was a matter of deep concern to the United States in so far as the innumerable islets would make ideal hiding places for submarines which might sever the line of communication between the United States and the Philip-pines.

There was, moreover, the problem of Yap, a little island *Yap* (population 8,000) in the Pellew group. The Pacific cable of the American Commercial Cable Company runs from Honolulu

to a relay station at Midway Island, and thence through Guam to Yap. From Yap, lines run to the Chinese coast, and the northern Celebes. This island is therefore one of the nerve centres of American cable communications in the Pacific, and feeling in the United States was very opposed to its transfer to Japan, especially as Japanese law prohibits the employment of any foreigner in a cable or telegraph station on Japanese territory.

Jaluit

The acquisition of the Marshall Islands brought Japan 2,000 miles nearer to Pearl Harbour, and within 4,000 miles of San Francisco. It was a source of anxiety to Australia and New Zealand also, because Jaluit in the Marshall Islands, which is almost equidistant from Japan, New Zealand and Brisbane, was regarded as suitable for the construction of a naval base. Japan had moved not merely 2,000 miles eastward towards the United States, but also 2,000 miles southward towards Australia.

NAVAL BASES IN THE PACIFIC

*American
Naval Base*

American schemes of defence in the Pacific, prior to 1914, were all considered with reference to the so-called "American quadrilateral." This consisted of four possessions widely separated—Dutch Harbour, off the coast of Alaska, Pearl Harbour, 2,000 miles south-west of San Francisco, Guam, 1,500 miles from the Philippines, and Pago-Pago Harbour, Tutuila (Samoa), 1,600 miles north-east of New Zealand.

*Pearl
Harbour*

Pearl Harbour is a first-class American naval base, seven miles from Honolulu in the Sandwich Islands. Its fine natural harbour has been deepened and widened, and contains dock accommodation, oil storage tanks, and plants for the handling of coal and supplies. It is a cable station for the Commercial Cable Company, and possesses powerful wireless plants. As a naval base its importance is two-fold.

- (1) It is the first stepping-stone in the American line of communication with the Philippines ;
- (2) It is the first outpost, in the Pacific, of the Panama Canal, giving the American fleet a central station for the defence of the various routes to Panama.

A disturbing feature in connection with its defence is the very

large number of Chinese and Japanese who have settled in these islands and now form over 50 per cent. of the total population.

Three thousand miles farther, west by south from Pearl *Guam* Harbour, is the island of Guam, the second link in the American line of communication with the Philippines. Its development as a naval base was under consideration prior to the Washington Conference.

Another possible situation for a naval base prior to the *Dutch* Washington Conference was Dutch Harbour off the coast of *Harbour* Alaska. Though situated in a very northern latitude, it is ice-free, and flanks fairly closely the direct routes from San Francisco and Vancouver to Japan. Owing to the trend of the American coast, from San Francisco to Dutch Harbour would be almost a coasting journey, and the distance thence to Tokio is only 3,000 miles. As a position, it would appear to be better situated than the other American bases for attack or defence against Japan.

The British naval harbours are the bases at Hong Kong, *British* Singapore, Sydney, and Auckland, and the important defended *Bases in the* fuelling station at Esquimaux, forming a huge pentagon of *Pacific* which two sides (Vancouver to Sydney and Vancouver to Hong-Kong) are each more than 6,000 miles.

Hong-Kong is the naval base, and headquarters of the *Hong Kong* British China squadron. It is an island 11 miles long and *and Wei-hai-* from 2-5 miles broad at the mouth of the Canton river. The colony includes some of the mainland (Kowloon) *wei* and a leased part known as the New Territory. Hong-Kong itself is close to the mainland, possesses one of the finest harbours in the world (10 square miles), and is one of the greatest ports in the British Empire in volume of trade. The entrances to the harbour are narrow, and easily defended from sea attack, and the land front requiring protection extends only for about 11 miles. While it is isolated from the other British possessions in the East, and has no docks capable of taking post-Jutland capital ships, its importance is not merely commercial. It is a valuable advanced position near the gateway called the "Formosa Channel," which leads past the Pescadores and Formosa to the seas encircled by Japan.

Wei-hai-wei, on the Shantung Peninsula, was leased from China when Port Arthur was being developed by Russia. It was for some time a naval base, but the position is completely enclosed by Japanese possessions and of recent years it has been used chiefly as a naval sanatorium.

It consists of the island of Liu-Kungtao together with a territory on the mainland. At the Washington Conference in 1921 the British Delegation agreed to its return to China provided Japan would surrender and evacuate Tsing-tao, and subject to a proviso that the British Navy might use the anchorage if it is not required for the Chinese Navy. By the Treaty of Nanking (1930) arrangements were finally made for Wei-hai-wei to be evacuated. The leased territory, together with its properties, will be returned to China without compensation, but the island of Liu-Kungtao may be used by British naval units as a summer resort for ten years. Should China desire to use Wei-hai-wei as a naval base, this privilege may be suspended at any time.

*Sydney and
Auckland*

The naval dockyards at Garden Island and Cockatoo Island, near Sydney, are the base and headquarters of the Australian fleet. The naval base of the New Zealand squadron is at Devonport near Auckland in the North Island.

Esquimault

Esquimault, two miles west of Victoria at the southern end of Vancouver Island, guards the entrance to the Juan de Fuca Straits, by which all sea traffic to Vancouver passes. The harbour is naturally good, but dock accommodation is still far from satisfactory. As a defended coaling station, it can draw on the supplies of local coal from British Columbia. It is garrisoned, like Halifax, by Dominion troops. The distance of Esquimault from Hong-Kong (6,000 miles) and from Sydney (7,000 miles) limits its value rather to the defence of Canada than to any use as a stepping-stone in naval lines of communication in the Pacific.

If the Pacific were open, however, to our ships in time of war, and the Mediterranean closed, then the route via Quebec, Montreal, Vancouver-Pacific, generally called the "all-red route," would be of service. The following table gives the comparative times of transit from Plymouth under such circumstances.

<i>To Australia (Sydney).</i>				<i>Approximate time of transit.</i>	<i>" The All- Red Route "</i>
Via	Vancouver	..	..	26 days.	
„	Suez Canal	..	..	28 „	
„	Cape of Good Hope	..	..	31 „	
„	Panama	..	..	32 „	
„	Magellan Straits	..	..	33 „	
<i>To Hong-Kong.</i>					
Via	Suez Canal	..	..	24 „	
„	Vancouver	..	..	30 „	
„	Cape	..	..	32 „	
<i>To India.</i>					
Via	Suez Canal	..	..	15 days.	
„	Cape	..	..	26 „	
„	Vancouver (Madras)	..	..	37 „	

The territory of Japan lies for 3,000 miles across the eastern approaches to China and Siberia. The openings to this inland sea are never more than 120 miles in width; in the channel at the southern end, lying between Formosa and the mainland, are the Pescadores, a group of islands 300 miles to the north-east of Hong-Kong. These islands are obviously suitable for naval stations to watch Hong-Kong, protect the entrance to the Japanese seas and keep an eye towards the Philippines (500 miles).

Prior to the Washington Conference, Japan had constructed a naval base in these islands (the Pescadores); the other naval bases were Yokosuka, Kure, and Sasebo. Formosa, also, contained several second-class naval bases, so that, taken in conjunction with Japanese sea power, her position secured an absolute command of the Yellow Sea and the Sea of Japan.

Her situation also tended to make her predominant in the western Pacific. American fleets would have to sail 5,000 miles and British fleets 10,000 miles to attack her. Large convoys of torpedo boat destroyers, submarines, oil tankers and auxiliary vessels would be necessary. In the case of the United States, the fleet would have no base equipped with docks and repair facilities nearer than Pearl Harbour. It

would have to pass through or leave on its flank hundreds of islands which might be submarine bases. The adventure therefore would probably be as difficult as for Japan to attempt to attack us in the Atlantic, and an overwhelming superiority would be necessary to success. "The development of aircraft and the necessity of a host of auxiliary craft tend to produce what may be called areas of maximum control for each power. Within its own area a navy tends to be supreme. The farther away it goes, the heavier becomes its task. . . . Nations can be too far apart to go to war."

THE WASHINGTON CONFERENCE (NOVEMBER 1921—FEBRUARY 1922)

So much was the Pacific regarded as a possible storm centre of the future, that Great Britain, France, Italy and Japan gladly acceded to the suggestion made by President Harding in July, 1921, that a Conference should be held to discuss the general reduction of armaments and the problems of the Far East. The results of the Conference were embodied in seven treaties, of which the more important were as follows :—

Four Power Treaty

1. The Quadruple Agreement, by which Japan, U.S.A., the British Empire and France, bound themselves to confer together in the case of any difference which might arise between them with reference to their insular possessions in the Pacific. This treaty superseded the Anglo-Japanese Alliance, which was due for renewal in 1922, and against which a good deal of feeling had been expressed in the United States. One interesting feature of this Four Power Treaty is a clause which states that the four powers concerned will consider together any action to be taken in the case of a threat to their interests by an outside Power. Like the Japanese Alliance, it lasts for ten years (until 1932), and may then be renewed. It should be noticed that it refers specifically only to "insular possessions."

Five Power Treaty

2. The Five Power Naval Treaty, signed by the British Empire, United States, France, Italy and Japan. The first eighteen articles of this treaty dealt with the general limitation of naval armaments among the signatory

Powers and have been summarised in Chapter VI. Article XIX refers to the Pacific and, on account of its importance, is given in full :—

“The United States, the British Empire and Japan agree ^{The} that the *status quo* at the time of signing of the present Treaty, ^{“Status Quo”} with regard to fortifications and naval bases shall be main- ^{Area} tained in their respective territories and possessions specified hereunder :—

- (1) The insular possessions which the United States now holds or may hereafter acquire in the Pacific Ocean except (a) those adjacent to the coast of the United States, Alaska and the Panama Canal zone, not including the Aleutian Islands and (b) the Hawaiian Islands.
- (2) Hong-Kong and the insular possessions which the British Empire now holds or may hereafter acquire in the Pacific Ocean, east of the meridian of Long. 110° E. except (a) those adjacent to the coast of Canada, (b) the Commonwealth of Australia and its territories and (c) New Zealand.
- (3) The following insular territories and possessions of Japan in the Pacific Ocean, to wit : the Kurile Islands, the Bonin Islands, Amami-Oshima, the Loochoo Islands. Formosa and the Pescadores and any insular territories or possessions in the Pacific Ocean which Japan may hereafter acquire.”

“The maintenance of the *status quo* under the foregoing provision,” the article continues, “implies that no new fortifications or naval bases shall be established in the territories and possessions specified : that no measures shall be taken to increase the existing naval facilities for the repair and maintenance of naval forces, and that no increase shall be made in the coast defences of the territories and possessions above specified. This restriction, however, does not preclude such repair and replacement of worn out weapons and equipment as is customary in naval and military establishments in time of peace.”

Before considering the effect of this agreement on the naval situation of the Powers concerned its phraseology should be

noticed. The phrase "adjacent to the coast of" is vague and no definition of it appears in the later sections of the Treaty. Further, although Hong-Kong is specifically mentioned, no reference is made to Kowloon or the Kowloon Extension which are not insular possessions. There is, therefore, some ground for doubt whether Kowloon is in the *status quo* area or not. Wei-hai-wei is probably not mentioned because the Conference realized that a separate arrangement had been concluded between Great Britain and China, by which that port would be handed back to the Chinese Government as soon as there was a Chinese Government capable of maintaining order.

The effects of this "*status quo*" arrangement on the naval situation of the various powers are considerable. The Hawaiian Islands are outside the scope of the agreement and Pearl Harbour can therefore be fortified and expanded as much as the United States desire. As regards Guam, the stepping stone between Pearl Harbour and the Philippines, a naval base there had been contemplated, but it had not been commenced, and, as Guam lies in the "*status quo*" area, no constructional works or fortifications can now be erected. A travelling commission was selecting a suitable position for a naval base in the Philippines, but, by the Treaty, this cannot now be constructed. Dutch Harbour in Unalaska had been frequently mentioned by American naval experts as a potential naval harbour not far from the shortest sea route from San Francisco to Yokohama and only 3,000 miles from the latter. At the time of signing the Treaty nothing had been done to develop it as a naval base, and, now, it also lies in the "*status quo* area." Nor can Pago-Pago (Tutuila) in the Samoan group, which was undefended in 1921, now be fortified. Thus the Quadrilateral to which all American schemes of defence in the Pacific were once referred—Dutch Harbour, Pearl Harbour, Pago-Pago and Guam—was partly demobilized by the Treaty.

The British Empire has been seriously affected also. The oilfields of Sarawak, the coaling harbour of Labuan, the whole of British North Borneo and the island groups of the Pacific lie in the "*status quo* area." Hong Kong must remain "*in statu quo*." Its naval facilities for repair and maintenance cannot therefore be enlarged above those existing in 1921.

During the war larger battle cruisers were built; bulges and blisters added as a defence against torpedoes or mines, and by 1921 Hong-Kong had no docks capable of dealing with the repair and maintenance of the larger post-Jutland ships. By this Treaty measures to increase the dock capacity cannot be taken. We were therefore left without a satisfactory maintenance base nearer than Malta, until such time as the necessary facilities should be constructed at Singapore, which lies outside the "*status quo* area."

If we now turn to the effect on the Japanese naval situation it will be found to have suffered little or nothing from the Treaty. The chief naval bases (Admiralties) were at Yokosuka, Sasebo and Kure on the main islands. There were strategic harbours also at Maizuru, Ominada and Chinhaï (Korea). They were all outside the *status quo* area and are consequently unaffected. The only bases and harbours which were affected by the Treaty were a few subsidiary ones in Formosa and the Pescadores, which remain second-class bases as before. For Japan, therefore, the effect of the Treaty has been to diminish the potentialities of Hong-Kong and to remove any possibility of the United States increasing the strength of their line to the Philippines by fortified harbours in Guam, Cavite Bay, etc. Japanese naval isolation has become greater than before, and cannot be threatened except from bases very far distant. This is obvious from the following table of distances.

Yokohama to Pearl Harbour	..	3,390	nautical	miles.
„ „ Singapore	.. ..	2,900	„	„
„ „ Sydney	.. ..	4,500	„	„
„ „ Auckland	.. ..	4,800	„	„
„ „ Vancouver	.. ..	4,200	„	„

- (3) A third Treaty signed at the Washington Conference was *Treaty about Yap* between the United States and Japan concerning Yap Island. The situation already described with regard to the cable station on that island was settled by an agreement which allowed the United States full facilities in connection with cable operators, etc. It was also agreed that no military or naval bases should be established or fortifications erected in its territory.

Nine Power Treaty 4. A Nine Power Treaty relating to the Chinese Customs Tariff, to which was appended an important resolution regarding the abolition of extra-territorial rights in China.

The Termination of Five Power Naval Treaty It should be noticed that the Five Power Naval Treaty remains in force until 31st December, 1936, and can only be terminated then or after that date provided one of the Contracting Powers has given two years' notice of its intention to withdraw. Within one year of the date on which such a notice of termination has been given all the Contracting Powers shall meet in a second Conference.

EVENTS SINCE THE WASHINGTON CONFERENCE

Following the Washington Conference and the Treaties which embodied its results, the Conference limitation of the number of battleships was ratified in due course by the various Powers concerned. In view of the new situation with regard to Hong-Kong, much discussion arose in this country and the Dominions with regard to the necessity for and situation of a first-class naval base in the Pacific, and Singapore was finally selected. The preliminary work on the base was started in 1925; a floating dock was brought out from England, and possible sites for a hill station were selected. In 1929, however, work on the naval base was suspended, and its resumption has not yet been announced.

Events in China

The political atmosphere of the Pacific lands has been disturbed by an unhappy sequence of events in China since the war. Following the dissolution of the Manchu dynasty in 1912 and the proclamation of the Chinese Republic, there came a period of comparative freedom from internal strife which lasted until 1916. This period was unfortunately succeeded by one in which the military governors, appointed to control the great provinces, began to assume the powers of dictators within their own spheres of influence, to recruit and maintain armies, to make war or carry on intrigues against one another, and even to dictate the policy and personnel of the Central Government at Peking. Two new forces entered into this arena after the war, the Kuo Min Tang or National party of Canton, founded in 1907 by the late Dr. Sun Yat Sen, which became strongly anti-foreign in tone;

and the introduction of Soviet influence. By the time the Washington Conference was held, it was already very doubtful whether there was any effective central government in China which could carry out the terms of treaties. Nevertheless an attempt was made in the Nine Power Treaty signed by Great Britain, the United States, Japan, France, Italy, Belgium, Portugal, Holland and China, to redress certain grievances put forward by the Chinese representatives. The $3\frac{1}{2}$ to 5 per cent. *ad valorem* duties on all foreign trade levied at the ports by the Chinese Maritime Customs and collected under British administration were to be increased to a level rate of 5 per cent. in order to give a greater margin, when the interest on external loans was paid, for internal development. An additional surtax of $2\frac{1}{2}$ –5 per cent. was to be permitted also, in return for which the Chinese Government was to take steps for the removal of “*likin*,” the trade-paralysing taxes paid on goods in transit from one province of China to another. Extra-territorial rights, by which subjects of the Treaty Powers who commit crimes in China are tried in consular courts according to the laws of their own country were to be reviewed by a Commission to ascertain whether conditions in China would warrant their abolition. The disturbed condition of the country has however prevented any final agreement from being reached on either of these points up to the present.

British interests in China are not confined to her territories of Hong-Kong and Wei-hai-wei, her concessions or leased areas in Canton (Shameen), Amoy, Tientsin, her late concession in Hankow, or her major share in the International Settlement of Shanghai. British capital and enterprise have been responsible for many successful Chinese undertakings such as the development of railways, ports and mineral resources. Forty per cent. of the carrying trade from China to foreign countries is normally British, and Great Britain is third, after Japan and the United States in the total value of trade with China, if Hong-Kong is omitted from account. If Hong-Kong is included she is first, and it is estimated that the financial interest of the British Empire in China is not less than £500,000,000.

As British interests are purely commercial the chief object

of her policy must be the safeguarding of the flow of external trade. The bulk of this trade follows three important routes, viz., (1) The trade of the southern provinces which follows the river route to Canton and thence to the distributing port at Hong Kong; (2) the trade of the Yangtse Kiang Valley and its tributaries which converges on Hankow and goes by this river to Shanghai near its mouth; (3) the trade of the northern provinces which converges on the Peking to Tientsin railway. British policy in China is therefore chiefly concerned with the establishment of peaceful conditions, a normal flow of trade and the security of the trade exits at Hong-Kong, Shanghai, Taku and Chin-wang-tao. Hence the chief British military stations are Hong-Kong, Shanghai and Tientsin.

*The Future
of China*

The outcome of the present chaotic condition in China may be the formation of a Nationalist state. With a population of from 400 to 450 millions, with vast resources of iron ore in Shantung, Hankow and Manchuria, with undeveloped coal fields in almost every province, with oil resources in Manchuria and Shansi, with the world's chief supply of antimony in Hunan, and some of the richest copper districts in the world in Yunnan, China has natural sources of wealth unrivalled by any other country on the globe. The chief difficulties in the way of the formation of a strong state are provincial jealousies and ambitions, the lack of a proper system of communications and a common medium of speech. China has a written language common to all parts, but variations in pronunciation are so great in the various provinces that the practical effect is the same as a multitude of tongues.

*The Problem
of Man-
churia*

The three eastern provinces of China, forming the area known as Manchuria, are a region of interests vital to Japan. These provinces are important also to Russia and China. Intrinsically, they form an area of great agricultural and mineral possibilities. Their soil is said to be, in parts, the richest in the world. Soya beans, maize, wheat, barley and rice are grown in large and increasing quantities. There are great forests covering 28 million acres. Coal, iron, gold, silver, lead and asbestos are mined. For Japan this region is the most important external source of food stuffs and a potential source of coal and iron almost at her door. The occupation of the Kwangtung peninsula with its harbours of Dalny and

Port Arthur enables the Japanese fleet to control all the maritime entrances to Peking. The only railway from Korea runs to Mukden on the South Manchurian system, and South Manchuria forms the out-works beyond the five hundred mile land frontier of Korea. For Russia, on the other hand, this area contains the chief line of communication to Vladivostok—the Chinese Eastern Railway, built by Russian capital and administered under mixed Russian and Chinese control. For China, or at least for that small part of China which is conscious of such matters, it is an ancient Chinese territory fitted by its resources to be the scene of great developments in the future, and to hold the surplus population from overcrowded Chinese provinces, such as Shantung, which even at present is overflowing into Manchuria to the extent of over 300,000 each year. So great, indeed, is this flow of Chinese immigration that the possibility at one time thought immediate of either Russia or Japan peacefully absorbing this region, or partitioning it between them, is yearly becoming more remote.

CHAPTER VIII

LINES OF COMMUNICATION BY AIR

*Value of Air
Communications*

THE development of air communications is of special interest and importance to the British Empire owing to the way in which our Dominions and Colonies are scattered over the globe. Any means of securing rapidity of movement for passengers and mails will make for greater trade between the various parts. It will lead to a quicker turnover of goods and money, less delay in forwarding credit notes and banking documents on which the interest even for a month is very considerable, and will knit up the commercial ties between the various parts by enabling the representatives of firms to move without delay from place to place and keep in personal touch with local conditions.

Further, the widely scattered nature of the British Empire makes the question of rapid communication vital from a political point of view. Rapid movement and an easy interchange of ideas are in themselves bonds of union of considerable strength. Without these, the various outlying daughter nations are more likely to drift apart. Distance lends disenchantment to political views. An illustration of the desirability of rapid communications is furnished by the Imperial Conferences which meet only every three or four years. In the case of the Premiers of Australia and New Zealand, the time taken in travelling to and from Great Britain amounts to 10 weeks, and, adding the time occupied by the Conference, is likely to amount in all to four or five months. With an effective form of air communication this might be reduced, as far as travelling is concerned to 20 days in all, rendering it possible for Premiers from the outlying parts of the Empire to meet in consultation more frequently.

Moreover, our air strength in future wars depends largely on the progress of civil aviation within the Empire. Just as the navy relies to some extent on the mercantile marine

so the Air Force depends on the reserve of trained pilots, machines, mechanics and aircraft factories of civil aviation, which cannot be improvised on the spur of the moment. Further, while there is perhaps as much difference between a military aeroplane and civil aircraft, as there is between a battle cruiser and a liner, it is generally accepted and, indeed, was emphasised by the Civil Aerial Transport Committee (1917-18) and the Hambling Committee. (1922-23) that civil machines can be effectively used for bombing in case of war.

The maintenance of such a reserve is of particular importance in view of the exposed position of Great Britain. Though our insular position is a defence to us by sea, it is a disadvantage by air, for the sea that surrounds us favours surprise attack by aircraft, and makes it difficult to observe their line of retreat. In the comparatively small area of Great Britain are a number of vital nerve centres, ports, docks, and cities the greatest of which is London, and all of these are splendid aircraft targets. Further, London, owing to its situation near the continent and on a great river, is more exposed to attack from the air than is any other great city of Europe. There is no precedent yet from which to argue, but it would appear reasonable to suppose that the moral effect on the civil populace—in the case of an aircraft attack, made not by a few machines but by thousands—might paralyse the energy of the nation, and so cause its defeat, even if the naval and military forces had not struck a blow.¹

*Development
of Lines of
Communication since
1918*

The first step in the development of civil aviation was the appointment of the Civil Aerial Transport Committee (1917-

¹ Western Europe has no greater geographical immunity from an air attack based on Great Britain than has Great Britain immunity from air attack based on France, Belgium, or Holland. What is "sauce for the goose is sauce for the gander." Just as British industrial regions are within the range of aircraft operating from these countries so too are the highly industrialised part of France, the whole of Belgium and Holland and the Ruhr Valley within air range of Great Britain. There are more guiding rivers like the Somme, Seine, and the Rhine for British aircraft than there are for hostile aircraft attacking Great Britain. Nor is there anything in the argument of depth of country to be traversed. Damage done to the industrial fabric of northern France might prove vital. The assistance we were able to give to our French ally in 1914 was as important from the point of view of the provision of material as of man power. Great industrial regions cannot be improvised on the spur of the moment.

In this connection it may be noticed that the average radius of action of a night bomber carrying a military load of 2,000 lbs. at 90 m.p.h. is about 400 miles.

18), which emphasised, in their report, the importance of all civil machines being readily convertible to military use. For this purpose they urged that civilian aircraft should be made to conform to certain Government requirements, even at a possible diminution of commercial value.

The Civil Aviation Department, formed in 1918 as a branch of the Air Ministry, became responsible for all matters dealing with civilian lines of communication, and with it was linked up the Meteorological Office. Subsidies were arranged to be paid to a number of air lines operating from Great Britain to the continent. Subsequently at the Imperial Conference in 1921, the question of air communications between the Dominions and Great Britain was raised, and a suggestion made that the airships constructed for the British Government should be tried on Imperial routes, but owing to financial stringency the matter was deferred for the time being.

An important step was taken in 1922, when, in view of the fact that the companies which had been subsidised by the Civil Aviation Department were not prospering, the Hambling Committee was appointed, which recommended the formation of a company with a capital of one million pounds to embrace, if possible, all air lines operating in and from Great Britain. The Government agreed to subsidise this company to the extent of one million pounds spread over ten years, not necessarily in equal instalments. In return for this subsidy, its machines should be at the disposal of Great Britain in time of war.

*Formation of
Imperial
Airways,
Ltd.*

In December, 1923, this recommendation was carried out and a new Company was formed, known as the Imperial Airways, Ltd., which combined the interests of the Handley Page Co., the Instone Line, the Daimler Hire Co., and the British Marine Air Navigation Company, and receives a subsidy from the Government.

Imperial Airways, Ltd., operates the following European routes :—

- (1) London—Paris.
- (2) London—Paris—Basle.
- (3) London—Ostend.
- (4) London—Brussels—Cologne.

(From Cologne a German line runs in conjunction to Berlin. From Berlin a German-Russian line completes the journey to Moscow. The whole journey from London to Moscow (1760 miles) is done in 33 hours, including stops.)

(5) Southampton—Channel Islands.

In addition to these, it has also operated, since 1929, the Imperial Air route to India, and is likely to operate the Cape to Cairo route which is forecasted for the latter half of 1930, or early in 1931.

IMPERIAL AIR ROUTES

In the case of a rapidly developing branch of knowledge, such as the geography of air routes, it is impossible to lay down hard and fast rules. From the great flights made since 1918, there would appear however to be certain geographical principles which affect the question of airways in the Empire.

1. If they are to pay they must run, as do railways or steamship lines, through a number of points of commercial importance.

2. Safety is the main consideration. Therefore, there should be many aerodromes and emergency landing grounds. The aeroplanes of to-day will transport 24 passengers with hand baggage at an average speed of 100 miles per hour, for $3\frac{1}{2}$ –4 hours. The limitation to 4 hours is due to the limited endurance of the pilot. It would seem, therefore, that the extreme distance between aerodromes should not be more than 400 miles.¹

3. Coast lines, waterways, rivers and lakes will naturally be followed by the airman, as they provide guiding lines.

4. Mountainous regions are a partial barrier owing to the altitude required to cross them, the cold, and the difficulty of finding good emergency landing grounds.

5. Tropical deserts are a partial barrier also, owing to the intense heat and the disturbance of the air by air pockets, as well as to the difficulty of finding natural features by which to

¹ With dual control this figure may perhaps be raised to 800 miles.

steer a course. A method of overcoming this last difficulty is illustrated by the air route from Egypt to Baghdad.

*The history
of the
Baghdad
route.*

The development of the Egypt-Baghdad route was begun in November, 1918, by a flight from Cairo to Baghdad via Tadmor and Damascus, made by Air Vice-Marshal Salmond. The flight commenced at 7 a.m. on the 15th November from Heliopolis (Cairo), and finished at Baghdad at 5 p.m. the following day. It was a striking example of the saving in time which could be accomplished by air travel, when it was compared with the ordinary time of transit for the journey by sea and land—a matter of at least 21 days. Shortly afterwards, it was decided to run a regular air mail service between Cairo and Baghdad, and the Air Force authorities came to the conclusion that if machines were to cross the desert, it would be impossible for them, in case of accident, to send their exact position by wireless, and any effort to discover them would be extremely difficult. It was therefore arranged that a motor convoy should proceed through the desert, and mark out a guiding line. This was done by a convoy of Crossley tenders and Ford cars, which set out, each car following in the track of the preceding one so that a deep line was cut across the surface of the desert. At intervals of about 20 miles where level spaces were found, the cars ran round in a circle, forming the boundary of a landing-ground. Each circle was indicated by a letter or number. The winds blowing over this part of the Arabian desert are not very strong, so that the track remains visible for a considerable time.

Since January, 1927, Imperial Airways, Ltd., has operated this route, along the line Cairo, Gaza, Rutbah Wells, Baghdad and Basra. Rutbah Wells in the Syrian desert, is utilised as an intermediate fuelling and watering station.

*Basra to
Karachi*

The Basra-Karachi section runs along the inhospitable coasts of southern Persia and Baluchistan, the route followed being Bushire, Lingeh, Jask, Gwadar and Karachi.

*Imperial
Airways
route to
India.*

Since May, 1929, a weekly air mail from England to India (Croydon to Karachi) has been operated by Imperial Airways, Ltd., who receive for this purpose an increase in the subsidy paid to them. The route across Europe was, until recently, as follows :—Croydon, Paris, Basle, by train to Genoa in order to avoid crossing the Alps by air. From Genoa by flying boat

to Rome, Naples, Corfu, Athens, Crete, Tobruk (Tripoli), Alexandria. Since the unfortunate loss of the "City of Genoa," off Spezia, it has been modified and at present runs Croydon, Cologne, Vienna, Belgrade, Athens, Crete, Alexandria.

From Alexandria it continues as follows :—

Gaza, Rutbah Wells, Baghdad, Basra, Bushire, Lingeh, Jask, Gwadar, Karachi.

From London to Alexandria by air mail takes $2\frac{1}{2}$ days, to Baghdad $3\frac{1}{2}$ days, to Basra 4 days, and to Karachi $6\frac{1}{2}$ days. There is thus a saving in the journey to India of $8\frac{1}{2}$ days, or of 17 days in the time required to send a letter from home and receive a reply. It is expected that when some night flying is introduced on this route the saving of time will be increased by at least twenty-five per cent.

The selection of Karachi as the terminus in India, instead of Bombay, is due to a variety of reasons. It is the natural "air gateway" to India, because it is the port in India which is nearest to England and Egypt, and it lies at the western entrance to the great highway of commerce and movement in India, the Indo-Gangetic plain. Further, it is convenient as a port for reinforcements for the North-West Frontier, possesses a climate less humid and less affected by the monsoons than Bombay, and Drigh Road 5 miles from Karachi is already the site of the Aircraft Depot for India.

*Karachi the
air gateway
to India*

The continuation of this line through India and Burma to Australia will probably take the route Karachi, Nasirabad, Delhi, Allahabad, Calcutta, Akyab and Rangoon.¹ From Rangoon it will follow the western coast of the Malay Peninsula through Port Victoria to Singapore, and will then use the string of islands forming the Dutch East Indies as stepping stones to Port Darwin. Between Port Darwin and Sydney the aerodromes already used by the regular air service of Eastern Australia will no doubt be utilised. Though this route from Karachi to Sydney has now been flown many times, there is no regular air service as yet in operation along it.

*Air routes in
India and to
Australia*

An alternative route has been suggested, which would use Christmas Island as the next stepping-stone after Singapore instead of the Dutch East Indies, thus making the journey from Calcutta to Australia over British territory only.

¹It has now been extended to Delhi (London to Delhi $7\frac{1}{2}$ days).

Cairo to
Cape Town

The first steps towards the establishment of a Cairo to Cape "all red" air route were taken in November, 1918. Survey parties were sent out to prepare the route, make landing stations and emergency landing grounds. One party was responsible for the section from Cairo to the source of the Nile. The second party entered East Africa by Mombasa and took the central section from Lake Victoria Nyanza to the southern end of Lake Tanganyika. The third party, with its headquarters at Pretoria, was responsible for the section from Tanganyika to Cape Town. Along the immense route, 5,206 miles in length, a chain of 43 aerodromes was placed. The average distance, therefore, between the aerodromes, was the comparatively moderate one of 124 miles, or less than two hours' flight.

Out of the 43 aerodromes, 24 were organised as petrol and oil re-fuelling stations. The route followed the Nile as far as Wadi Halfa, then cut across the desert to avoid a loop in the river to Sheriek, and thence followed the Nile again to Khartum. The most important landing grounds between Khartum and Bulawayo were:—

1. Kisumu, at the north-east corner of Lake Victoria, which is the terminus of the Uganda railway from the coast.
2. Tabora, which is on the railway running through Tanganyika territory.
3. Abercorn in Northern Rhodesia.
4. Livingstone on the Zambesi river.

From Bulawayo it followed the main railway line through Pretoria and Bloemfontein to Cape Town.

The first attempt to fly the complete route was made in February, 1920, by Dr. P. Chalmers Mitchell, in a machine chartered by the *Times*. He crashed at Tabora and the attempt was abandoned. Shortly afterwards, however, the journey was made by Colonel Sir H. A. Van Ryneveld, and Major Sir C. J. Brand of the South African Force, their actual flying time being 72 hours 40 minutes. Since this pioneer flight, several journeys have been made over the route by Sir Alan Cobham and others.

This air route is not yet in regular operation, though an attempt was made in 1928 by Captain Gladstone, subsidised by the Governments of Uganda, Kenya and the Anglo-Egyptian Sudan, to establish a sea plane service from Khartum up the Nile to Kisumu on Lake Victoria Nyanza. The flights were unfortunately dogged by ill luck and a regular service never matured. However, arrangements have now been made for a subsidiary company of Imperial Airways Ltd., to operate a line from Cairo to Cape Town. The Union of South Africa has agreed to pay a large subsidy to the line, and the Governments of the Sudan, Kenya, Tanganyika and Northern and Southern Rhodesia are also likely to help. It is anticipated that the first half of the line, from Cairo to Mwanza, will be in operation by July, 1930, and the second half, from Mwanza to Cape Town, six months later. Imperial Airways, Ltd. have undertaken to do the journey from Cairo to the Cape in nine days.

It is worthy of mention that for several years past an annual flight to the Cape and back has been part of the routine of the Royal Air Force in Egypt.

There are no regular lines in operation at present between important commercial centres in the British Isles. Distances are short; communications by road and rail are numerous and excellent; and the climate by reason of fog, low hanging clouds and bad visibility is not so favourable for flying as are the climates of continental regions. Flying clubs are, however, in existence, a number of municipalities have already constructed or are contemplating the construction of air ports, and the establishment of a London to Liverpool and a cross channel route to Ireland in the future is probable.

Australia with its vast distances, regular climatic conditions, and undeveloped internal communications, has more airways than any other Dominion. A line from Adelaide to Perth connects South and West Australia; another from Perth to Derby, 1,400 miles in length, provides a rapid means of communication between places otherwise joined only by an irregular service of coastal steamers. A line from Brisbane, through Charleville and Cloncurry to Camooweal, links up the inland terminals of the railways which run inland from the

Air routes in the British Isles

*Development of air routes in the Dominions—
i. Australia*

ports of Queensland and brings them in closer touch with the capital of the State.

ii. *Canada*

Until recently no regular air routes were in operation in Canada, though aeroplanes and seaplanes were extensively used for surveying by air photography, for the detection of forest fires and for conveying prospectors and equipment over large tracts of difficult country where any other mode of communication would be arduous and slow. Recently, however, regular daily services from Montreal to Toronto and Montreal to Albany have been started. There is also a service from Winnipeg to Edmonton, and a number of shorter routes are in operation.

iii. *The Union of South Africa*

The Union of South Africa has established aerodromes in all important centres and has selected a site for a mooring mast at Durban. No commercial air routes are in regular operation, but an important line from Walvis Bay to Johannesburg and Durban is projected. If the European mails, which at present are taken to Cape Town, could be landed at Walvis Bay and distributed by an air service to Johannesburg and Durban a considerable saving in time for most of the mails would be effected. The Government of South Africa has agreed, as already stated, to contribute to the proposed Cape to Cairo service.

AIRSHIP ROUTES

For the longer trans-oceanic routes of the Empire it is generally believed that the airship will be the chief means of air communication. The satisfactory flights of various experimental ships, such as the pioneer flights of the R34, which sailed non-stop from Edinburgh to New York (3,600 miles) and returned from New York to Pulham (3,800 miles) and the recent world cruises of the Graf Zeppelin have shown the capacity of the airship to withstand moderately severe weather conditions. The low speed of cruising, as compared with the aeroplane, is balanced by the fact that night flying can be carried on with safety. Engine trouble does not necessitate an immediate landing under unforeseen and perhaps difficult circumstances. The radius of non-stop movement, governed by the available fuel supply, is greater than that of the aero-

plane. The load which can be carried is considerable, and accommodation for passengers can be on a scale not unlike that of passenger accommodation in an ordinary liner. In war, also, experience has tended to prove that the airship is of value for naval reconnaissance and as a troop or aeroplane carrier. Provided, therefore, that a reasonable degree of safety can be ensured and that the paying load is sufficiently great, the commercial development of airships on our longer routes is extremely probable.

The Burney scheme of 1922 envisaged such a commercial development. Commander Burney, R.N., proposed to the Admiralty the formation of a company (now known as the Airship Guarantee Company) which would construct airships of 5 million cubic feet capacity, having a non-stop radius of 3,000 miles and able to carry, at a speed of 80 miles, 100 passengers and 10 tons of mails. The Company would construct fuelling depots and mooring masts at important stations, and would institute mail and passenger services to India and Australia. The whole organisation would be at the disposal of the Admiralty in time of war ; and, in return, the Government was asked to guarantee dividends to the shareholders for a period of ten years.
 The Burney Scheme

This scheme was finally accepted, in a modified form, after much discussion, by the Government in 1924 when a contract between the Air Ministry and the Airship Guarantee Company was announced. This contract provided for the construction by the Company of an airship which should conform to certain degrees of airworthiness laid down by the Aeronautical Research Committee, and should carry out satisfactorily certain air trials, including tests in Great Britain and a flight to India. The Government agreed to pay £350,000 for the airship, provided that all the tests were satisfactorily carried out, and to allow the Company to re-purchase it for £150,000 for use on an approved British air transport service.

At the same time the Government began the construction of another airship of similar dimensions, the object being to ascertain, by experiment and research in friendly rivalry the best methods of construction, as quickly as possible.

The two airships, the R100 (Airship Guarantee Company) and the R101 (Government airship) were completed in 1929

and underwent satisfactorily their initial tests. Both have a capacity of 5 mill. cubic feet and a length of rather more than 700 feet. Their cruising speed is from 60–70 miles, and they have accommodation for 100 passengers. The R100 has a framework of duralumin and internal combustion engines of the ordinary type, using petrol; the framework of the R101 is made of stainless steel and its engines are of the heavy oil Diesel type. It is anticipated that one (probably the R100) will make a trial flight to Canada and the other to India during the year 1930.

Mooring masts have been constructed, in preparation for these large ships, at Howden in Yorkshire, Cardington in Bedfordshire, near Ismailia on the Suez Canal, and at Drigh Road (near Karachi where there is also an airship shed). The Dominions are also co-operating, as requested at the Imperial Conference of 1926, and Canada has erected a mooring mast at St. Hubert; Australia is constructing one near Melbourne and South Africa has selected a site near Durban.

*The Future
Airship
Routes*

The airship routes of the future are, however, still a matter of doubt. Further experience of meteorological conditions is necessary before they can be definitely decided on. Possibly the outward journey to Canada will be made by Bathurst and the homeward journey direct. The best route to Australia may be *via* Durban to Perth and back *via* India and the Suez Canal. The force and direction of winds likely to be met will necessarily govern the choice of such routes; and the experimental ships, the R100 and R101 will probably collect data on which definite decisions can be made. It now appears certain that the airship of the future will be larger than the R100 and R101; and that if sufficiently paying loads are to be carried with safety, a cubic capacity of 9 million cubic feet is probably necessary. Thus the use of heavy oil Diesel engines in the R101 has entailed the insertion of another section in that airship, since its experimental tests, in order that its carrying capacity should be increased prior to its first flight to India.

The value of airship routes is clearly shown by the following table which assumes only a speed of 50 miles per hour relative to the ground.

Route	Total time.		
	Steamship	Airship	Saving
England to Egypt ..	6 days	2½ days	3½ days
On to Bombay ..	15 "	5 "	10 "
On to Perth ..	28 "	11 "	17 "
England to Canada ..	6 "	2½ "	3½ "
India to Australia ..	22 "	6½ "	15½ "
Australia to New Zealand	6 "	1½ "	4½ "

GENERAL ASPECTS

Great Britain is not so favourably situated for the development of air lines of communication as she is in relation to the sea routes of the world. For the latter, her position is intermediate to the two continents of Europe and North America and not remote from the continents of South America and Africa. She flanks the lines of sea communications from Northern France, Germany, Holland, Denmark, Norway, and the Baltic countries to every other part of the world. She is comparatively near the entrance of the Mediterranean.

*Sea Central-
ity and Air
Centrality*

For air development, on the other hand, insularity is no advantage. Distances in Great Britain are short; the climate not as favourable as that of continental countries, for flying. Her air routes to the east must cross the territory of other nations if they are to be as short as possible; if they follow an "all red" route they must be long and consequently must sacrifice much saving of time. For this reason, Gibraltar and Malta which are remote from the great circle route to India and Egypt, would not appear likely to be important air ports on our line of communication to the East. Cyprus, on the other hand, which is nearer to the great circle route, may gain additional importance. The importance of Bermuda, also, as an airport on the way from Europe to North America may for a similar reason be enhanced.

Air centrality with regard to the future Imperial air routes is however possessed by Egypt, Palestine and Iraq. This area is the natural region for a great air junction, of air lines from Europe, Asia and Africa. By aeroplane, Baghdad, Wadi Halfa, Constantinople and Athens are within one day's journey of Cairo; Khartum, Warsaw, Vienna and Rome within

*Egypt,
Palestine
and Iraq*

two days ; Moscow, Paris, London and Karachi within 3 days, and within 7 days are New York, Cape Town, Perth, India, Burma, Singapore, and most of Asia.

*The Freedom
of the Air*

As the most direct air routes from Great Britain to the East pass over various European countries, the position with regard to the right to fly over such countries is obviously of importance. Unfortunately, the situation is somewhat obscure at present owing to varying interpretations of the articles of the International Convention for Air Navigation which was drawn up in 1919 ; but most of the countries of Europe claim the right to refuse permission, even during peace, to the aircraft of other countries to fly over their territory, and they prefer to make the conditions of so flying a matter of negotiation in individual cases. This is obviously of special disadvantage to Great Britain, whose chief Imperial air route runs across France, Italy and Greece.

*Great Circle
Routes.*

There is little doubt that one of the most important developments of the future will be the utilisation of Great Circle routes as far as possible for long distance flights. The present route to India, for instance, is 2,000 miles longer than the Great Circle route from London to Karachi, and the disparity in distances is even greater in other cases. Attention is therefore drawn to the tracks of the various wireless beams shown on Map 13, as potential air routes of the future. Thus, the route to India may some day run *via* Berlin, Warsaw and Kabul, that to South Africa direct to Capetown, while others, such as a route to Vancouver, may cross the Arctic regions.

CHAPTER IX

CABLES AND WIRELESS

THE elaborate system of cables throughout the world, sixty per cent. of which is owned by British companies, has been of the greatest value to the British Empire in the past. It has helped in maintaining London as the financial and Press centre of the world. In time of war it has given us the advantage of secret, reliable and rapid means of communication to every Dominion and Colony. It has been a factor in securing unity of thought and unity of action during international crises, and, in this sense, has proved to be one of the important bonds holding a scattered Empire together.

But the effectiveness of a cable system in time of war is subject to three limitations.

(1) *Its security is dependent on sea power.* Cables can be lifted or damaged by enemy action. Thus the German cable across the Atlantic in 1914 was transformed into a British cable by the lifting and diversion of the two ends into Penzance and Halifax respectively. Further, cable stations on small islands cannot all be adequately defended and may be attacked and destroyed by raiders, as was the important station on the Pacific cable at Fanning Island during the war.

*Limitation of
Strategic
Value of
Cables*

(2) Those cables which, though British owned, touch at neutral territory or at ports not under British control may be a source of information to the enemy through the lack of complete censorship at cable offices in such cases. The most important cables are those, therefore, which touch only at British ports or ports under adequate British control, and these we define as "*all Red cables.*"

(3) In certain cases cable systems are dependent on *vital bottlenecks* which may be subjected to land attack. The land lines from Alexandria to Suez, which are the connecting link between the Mediterranean and Red Sea cable systems are an

illustration of this. Destruction of this land link by enemy action or sabotage, or loss of control of it during war, would be practically equivalent to the destruction of part of the cable system by the Mediterranean to the East and Far East.

ALL RED CABLE ROUTES

The English and Irish Cable Stations

The principal deep sea cable stations in England are situated at Porcella Cove and Porthcurno (Land's End) and in the south-west corner of Ireland, at Valentia and Waterville. With reference to the latter it is worthy of mention that the Irish Free State is only free to establish wireless or cable stations with the approval of the British Government, but that the latter can land additional cables or erect further wireless stations if found desirable.

From these various stations there run out the cable systems to the British Dominions and Colonies. Thus across the Atlantic to Canada and Newfoundland there are the cables operated by the Western Union Telegraph Company, the Commercial Cable Company and two (one "all red," the other the ex-German line, already referred to, which touches at the Azores) owned by the British Government. To India, South Africa, Australia and the Mediterranean and Indian Ocean lands there is the great network controlled by the Eastern Associated Telegraph Companies.

The "All-Red" Route to Canada and the West Indies

There are fifteen cables connecting the British Isles and North America, most of which touch at various cable stations in Newfoundland, such as Hearts Content and Harbour Grace, and thence proceed to Halifax in Nova Scotia. At Halifax the "all red route" to the West Indies begins and runs *via* Bermuda and the Turks Islands to Kingston in Jamaica which is the junction for all the British West Indies cables.

The "All-Red" Route to India by the Mediterranean

The "all red" route to India runs as follows:—Porthcurno, Gibraltar, Malta, Alexandria, land line to Suez, Perim, Aden, Bombay or Colombo. It should be noticed that this can only be regarded as "all red" if the land line from Alexandria to Suez is under adequate British control.

The "All-Red" Route to South Africa

The "all red" route to South Africa is a continuation of the above from Aden and runs thence as follows:—Aden, Seychelles Islands, Mauritius, Durban. The cables to South

Africa down the Atlantic touch at the Azores and Cape Verde Islands and are therefore not "all red."

From India cables run *via* Madras, Penang, Singapore to Hong-Kong, either direct or touching at Labuan.

The eastern route to Australia follows the line to South Africa as far as Mauritius, whence it runs *via* Rodriguez Island and the Keeling Islands to Fremantle.

Cablegrams can also be sent to Australia by an "all red" route passing through Canada. The route would be from Porthcurno or one of the other terminal stations in England to Harbour Grace or Hearts Content in Newfoundland, and thence by cable again to Halifax in Nova Scotia. Here its transmission would be along one of the land lines crossing Canada, through Winnipeg, to Vancouver. The land line which runs beside the Canadian Pacific Railway main track is not, it should be noticed, "all red" because it crosses United States territory. At Bamfield, near Vancouver, the message would enter one of the two cables of the Pacific Cable Board, a body consisting of representatives nominated by the Governments of Great Britain, Canada, Australia and New Zealand. It would pass along one of these cables, two miles below the surface of the ocean, to Fanning Island, and thence to Suva (Fiji Islands) and Norfolk Island where branches run to Southport near Brisbane and to Doubtless Bay near Auckland. If the message is to New Zealand, there is also a direct line, by which it could travel from Suva to Auckland.

It is clear, therefore, that a cablegram could be despatched round the world, travelling throughout by "all red" cables. Its route would be London, Porthcurno, Gibraltar, Malta, Alexandria, land line to Suez, Perim, Aden, Seychelles, Mauritius, Rodriguez, Keeling Island, Fremantle, Southport (Brisbane), Norfolk Island, Suva, Fanning Island, Bamfield, land line to Halifax, Harbour Grace, Porthcurno, London.

LAND LINES

It will be noticed from the foregoing that two systems of land lines play a specially important part in the Imperial cable network. The land lines from Alexandria to Suez are the bottleneck of the whole eastern system. They cross territory in Egypt which is not British, but which has been under British

The "All-Red" Route to Singapore and Hong-Kong

The "All-Red" Route to Australia (eastwards)

The "All-Red" Pacific to Australia

An "All-Red" Route Round the Globe

control for some years and should our military occupation of Egypt come to an end these land lines could no longer be regarded in the strictest sense as "all red." This is of some importance, in view of the recently proposed treaty with Egypt, which contemplated moving all British troops in that country into a zone about 18 miles in width between the Suez Canal and Long 32° E. Alexandria and Cairo are both outside this zone, and the bottleneck of the cable system to the East would therefore cease to be under British military supervision. No doubt, if necessity arose, measures to obviate any possible difficulties might be taken, and the cables might perhaps be brought into Port Said, whence the land line could run down the canal zone to Suez.

The other specially important land link in the Imperial system is the telegraph connection across Canada, joining the Atlantic and Pacific cables. The British land lines across the American continent naturally follow the trunk lines of the two great transcontinental railways, the Canadian Pacific and the Canadian National system. As already pointed out, the former is not "all red" because it crosses the State of Maine.

The Indo-European Telegraph Company's line to Persia and India, though commercially of value, is so liable to attack, delay, tapping or interference, in the many countries through which it passes, that it has little, if any, strategic importance. This is clear from its route which is as follows :—

Lowestoft by cable to Emden; thence by land line *via* Berlin, Warsaw, Odessa, Nickolaiev, Sebastopol, Kertch, Tiflis, Julfa, Tabriz, Tehran to Ispahan. From Ispahan there are two routes to Karachi, one by Nushki and Quetta and the other by Sheraz and Bushire.

IMPROVEMENTS IN CABLE TRANSMISSION

During recent years, and particularly since the war, notable improvements have been made in cable transmission which have enabled the cable companies to compete with the development of wireless. "Automatic relaying" by which a message is relayed from cable station to cable stations without human interference, adds greatly to the speed of transmission

and reduces the likelihood of error on the line from London to Bombay. "Scientific routing" avoids the overcrowding of traffic on any one cable system. Cables are in many cases "duplex"; that is to say, two messages can pass over the same cable in opposite directions at the same time. "Loaded" cables have been laid on some of the more important routes, in which an alteration in the inductance increases the capacity of the cable four or five-fold. "Wired wireless" enables a third message to be sent over comparatively short stretches of cable, superimposed on the two messages which are passing simultaneously by "duplex." By these methods the capacity of the British cable systems has been vastly increased.

IMPERIAL WIRELESS COMMUNICATIONS

The development of wireless telegraphy at the beginning of the twentieth century opened a new era in communications. In its earlier stages, though of the greatest value to shipping for keeping touch with the shore, a lack of the essential commercial factors, reliability, speed and cheapness, prohibited it from being a formidable rival to the submarine cable system, while its shortness of range prevented it from being regarded as a possible means of rapid communication connecting the various parts of the Empire. Progress was, however, rapid, and by the year 1910 some of the difficulties had been overcome; capacity and range had been greatly increased, and, in that year, the Marconi Company applied to the Colonial Office for licences to erect 18 wireless stations which should form an Imperial network. The Government approved of the idea but refused to entrust its working to private enterprise. The matter was consequently reserved for further consideration, a long delay followed, and finally the war intervened, with the result that in 1914 little had been accomplished except the erection of a number of medium-power stations for keeping touch with shipping and carrying on short range communication, and a Marconi long range connection between Great Britain and North America. This lack of progress was the more marked when compared with the efficiency of the German system based on her two great stations at Nauen (Hanover) and Windhoek (German South West

Africa) by which communication to every German colony was practically independent of the cable system when war broke out.

1919-1920
The "Re-
lay" or
"Step"
Scheme

Immediately following the war an Imperial Wireless Committee was formed to consider the question. They formulated a scheme of transmission by relays or steps, taking a distance of 2,000 miles as the maximum range possible for efficient working between stations.

The attitude
of the
Dominions
to this
Scheme

This proposal, being based on the principle of communication by means of links, which in case of war might be broken by the capture or destruction of intermediate stations, did not meet with general acceptance in the Dominions, who proceeded to make arrangements with the Marconi Company for the erection of high-power wireless stations capable of *direct* communication with Great Britain.

The Imperial Government acquiesced in these arrangements and, in March, 1923, further stated that it agreed to the policy of allowing private enterprise to build and operate Imperial wireless stations, subject to any conditions necessary to secure British control. At the same time, it decided that, in the interest of national security, there should be one wireless station in this country capable of communicating with every part of the Empire and owned and operated by the State. Work on a new Government super-power station at Rugby was consequently begun.

The
Discovery
of Beam
Wireless

Prior to the year 1924 all transmission over very long distances by wireless was effected by means of high-power stations using wave-lengths of from 10,000 to 16,000 metres. To obtain wave-lengths of this magnitude the size and power of the installation were necessarily very great. Thus, the British Post Office high-power station at Rugby has an aerial supported by sixteen towers each 820 feet high, and the electrical energy employed for transmission runs to the enormous figure of 1,000 kilowatts. The capital outlay and running expenses for such stations are very high, and they are obviously uneconomic, in that most of the power employed is wasted in broadcasting the waves in *every* direction and not in transmitting them solely in the direction of the receiving station. A little reflection will show that if it requires a power of 300 kilowatts to broadcast a long-distance message to the whole 360 deg. of ether round the transmitting aerial, as is the

case in high-power wireless transmission, the power needed to transmit waves confined in a beam of, say, 30 deg. would probably be only about one-twelfth as great, or 25 kilowatts, and that capital and running expenses would be correspondingly reduced.

In view of this, for some years Marconi had been carrying out experiments to discover a less wasteful method of wireless transmission. As early as 1896 he had shown that short wireless waves could be reflected in a desired direction by using a metal plate reflector, shaped like half a cylinder and placed behind the transmitter. It was, however, thought that such short waves would be reflected or diverted from their course by natural obstacles, in the same manner as ripples on a pond are reflected by a stone; whereas long waves could bend round these obstacles just as a great ocean wave will curve round a rock, rejoin and pursue its course. Further, short waves produced by the apparatus then available appeared to be liable to "fading" in the daytime, so that their application seemed to be limited to the hours of darkness. In long-distance transmission this was apparently an insuperable objection as it ruled out communication by short waves to Australia or New Zealand, in which cases the path would have to pass through a daylight zone somewhere during almost the whole of the twenty-four hours. Nor, on the other hand, could long waves be satisfactorily reflected. The reflector required would have to be so large and costly that reflection was not a commercial possibility. This was the dilemma. High-power wireless could communicate with the most distant stations by day and night and was consequently adopted, but only at an enormous waste of energy. Short waves could be reflected but apparently could not be used for long distances.

From 1916 to 1924, however, Senatore Marconi and his colleagues pursued their experiments on the use of short waves, to ascertain more fully their behaviour, and by the summer of 1923 they had discovered that, contrary to anticipation, shorter waves than those previously experimented with—*e.g.*, waves of from 10 to 100 metres, produced by the use of the better apparatus then available—were in fact not materially interfered with by obstacles such as ranges of mountains, and,

secondly, that the daylight range over long distances increased very rapidly as the wave-length was reduced.

A second result followed. The use of a reflector of moderate dimensions, which would focus the waves in a beam at the transmitting end became feasible, and another reflector which would concentrate the waves on the receiving aerial could also be used. Various types of reflecting apparatus were then invented, the more important being (1) the parabolic reflector consisting of a series of vertical wires arranged in the shape of a parabola round the transmitting or receiving antennæ of the aerial, and (2) the flat transmitting reflector in which the antennæ and reflector wires are arranged so as to make grids parallel to each other.

The advantages of this apparently simple discovery were clearly of great importance. First, the waves could be concentrated in a beam, thereby avoiding the immense dissipation of energy already referred to. Less power would consequently be required to transmit messages over a given distance, and capital outlay could be greatly reduced. The track of the waves would be confined to a beam and the ether would not be congested owing to each message flying to every point of the compass. Jamming, owing to congestion, would be reduced and reliability and secrecy correspondingly increased.

The element of secrecy obtained, however, must not be overestimated. The spread of a 10 deg. beam is so great as to render the amount of absolute secrecy negligible. Even with a 5 deg. beam, over a long distance, the spread is still very considerable.¹

So great were the advantages of the new system of transmission that since December, 1924, things have moved rapidly. The British Government, while retaining their high-power station at Rugby, placed contracts with the Marconi Company for two beam installations, at Bodmin (transmitters) and Bridgwater (receivers) for communication with Canada and South Africa, and at Grimsby in Lincolnshire (transmitter), and Skegness (receiver) for communication with India and Australia. In addition the Marconi Company maintains a transmitting station at Dorchester and a receiving

¹ The spread of the 8° beam from Bodmin, when it reaches the American coast, is 40 miles per degree, or 320 miles.

station at Somerton for communication with the U.S.A., S. America, and other parts.

Two beam stations in Australia at Ballan and Rockbank near Melbourne communicate with Montreal and Great Britain. In Canada, the transmitters are at Drummondville, 40 miles east of Montreal, and the receivers at Yamachiche about 25 miles north of Drummondville. In South Africa beam stations have been built at Klipeuval (transmitter) and Milnerton (receiver), near Cape Town. In India the sites of the stations are at Kirkee (transmitter) and Dhond (receiver) near Poona. The reflector, in the case of the beam to Australia from England, is placed between two aerials so that messages can be transmitted to Australia either eastwards or westwards.

In England the various transmitting and receiving sections are capable of operation at the Central Telegraph Office in London by means of the method known as remote control. Thus messages are prepared on a tape by means of a perforator with a typewriter keyboard. The tape is fed through a high-speed transmitter in London which automatically operates the apparatus at the wireless transmitter. At the incoming station (*e.g.*, Montreal Central Telegraph Office) the message appears again as perforations on a paper tape. This tape then passes through another apparatus which transforms the signals into ordinary Roman characters and prints them. It will be obvious that this automatic method of transmission and reception minimises the possibility of error while it greatly increases the speed of transmission. Each station is capable of communicating at a speed of at least 100 five-letter words per minute during a daily average of 18 hours.

THE ADVANTAGES AND DISADVANTAGES OF WIRELESS CONTRASTED WITH CABLES.

Wireless possesses a great variety of uses to which it can be *Advantages* applied. It can be employed for:—

- (1) Communication between ship and ship and between ship and shore.
- (2) Direction-finding at sea or in the air.

- (3) The collection and transmission of meteorological information from shipping.
- (4) Broadcasting propaganda, etc.
- (5) Direct communication from point to point on land and in the field.
- (6) Issuing orders, directions and information to fleets or air fleets from their bases, or between aeroplanes in flight.
- (7) Manipulating unmanned ships or aircraft is a possibility still in the experimental stage.
- (8) Wireless telephony over long distances, such as the services inaugurated between Rugby and Australia, etc.

Disadvantages of Wireless

On the other hand, it has the great disadvantage, from a strategic point of view, of lack of secrecy. No method has yet been discovered whereby secrecy can be ensured, except, perhaps, by the use of automatic coding and decoding instruments whose mechanism and systems might become known to an enemy. Even beam wireless only restricts the area in which messages, travelling towards a certain destination, can be tapped. The tracks of the beams to India and Australia are wide and pass in great circle routes over many countries. Both beams, for instance, traverse Russia, and the beam to India crosses Afghanistan. Tapping or "jamming" by intermediate stations is feasible, and the two important and necessary qualities of a system of communication during war—secrecy and reliability—are therefore not completely ensured.

The Amalgamation of Cable and Wireless Interests

In view of this and also in view of the fact that the smaller capital outlay and expenses of the beam stations would probably enable them to capture much of the traffic previously carried by cables, the British Government decided in 1928 that some measure of amalgamation between the two sets of interests was imperative. Accordingly, on the recommendation of a Committee representative of the various countries of the Empire, a Merger was arranged between the Marconi and Eastern Telegraph interests, and a communications company, known as the Imperial and International Communications Company, was formed which took over the business of these concerns and leased the beam systems and the Pacific and Government owned cables. This Com-

pany, the Directorate of which is approved by the Governments of the Empire,¹ now controls the Eastern Telegraph and Associated Cable Companies, the Western Telegraph Union, the Pacific Board cables, the Imperial Atlantic cables, the West Indian cable and wireless system (worked by the Pacific Board), the Marconi wireless system and the beam systems. Traffic can be pooled. There are adequate guarantees of British control in peace or war ; and in time of war or national emergency the Governments of the Empire may assume control of the whole system.

No doubt in future wars an important phase of wireless activity will be the broadcasting of propaganda to hostile and neutral countries. Such propaganda cannot be made liable to censorship. Preparatory propaganda, before a declaration of war, to prove to the enemy or to neutrals the justice of one's cause ; subversive propaganda aimed at destroying the loyalty of sections of the population in an enemy country ; stories of defeat to weaken morale and destroy the will to win will all probably be utilised. There will thus be the need for counter propaganda, the only effective reply, demanding the utmost skill and knowledge of human nature.

On the other hand, however, broadcasting, as it increases in efficiency, must prove of the greatest value to a scattered Empire such as ours both in peace and war. It provides an additional medium for maintaining and securing common interests and unity of thought throughout the Empire.

¹ The Chairman and one other director are persons approved by the the Government, and there is an Advisory Committee, including representatives of all parts of the Empire.

CHAPTER X

CANADA AND NEWFOUNDLAND

A BRIEF SKETCH OF THE GEOGRAPHY OF CANADA

*General
Physical
Features of
North
America*

THE map of North America shows certain prominent physical features. From Florida in the south to the neighbourhood of the St. Lawrence in the north, behind a coastal plain about 200-300 miles wide, lie the Alleghany Mountains and their subsidiary ranges. Beyond these ranges the ground slopes gently down to the great central plain of North America, which spreads across the Continent to the foothills of the Rocky Mountains. Beyond the Rockies there are a number of parallel ranges, gradually shelving down into the comparatively narrow Pacific coastal plain. Through the Continent run two great waterways—the St. Lawrence with its series of lakes, Lake Ontario, Lake Erie, Lake Huron, Lake Michigan, and Lake Superior, the whole system lying approximately from north-east to south-west, and from north to south the Mississippi-Missouri, with its many tributaries. It will be seen, therefore, that the “grain” of North America tends to run from north to south.

Though the area of Canada is 3,700,000 square miles, or about 30 times the size of the British Isles, the only portion developed to any extent is a belt 200-300 miles wide on the average, by about 3,000 miles long, through which the main railways, roads and other communications pass. North of this belt the country is almost unpopulated owing to the extremely rigorous climate experienced during the greater part of the year.

*The
Provinces*

Starting from the east, Canada is composed of the provinces of Nova Scotia, Prince Edward Island, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia, together with the Yukon and north-west territories.

The boundary between Canada and the United States

consists of three sections, the first of which is completely a land boundary, the second a water boundary, and the third again is land. *The Boundary of Canada*

The First Section. The boundary line starts at Passamaquoddy Bay in New Brunswick, then follows the River St. Croix for about 40 miles, turning northward round the highlands of the State of Maine, which forms a great salient between New Brunswick and Quebec. From the western side of this salient, the line of Lat. 45° N. is the boundary for about 140 miles until the River St. Lawrence is reached.

The Second Section. This follows the River St. Lawrence, passing through the centre of Lake Ontario and the Niagara River to Buffalo, whence it follows the centres of Lake Erie, Lake Huron, the St. Mary River, and Lake Superior to a point south of Fort William, which is marked by the Pigeon River. Here it follows the line of smaller lakes until it meets the S.W. corner of the Lake of the Woods.

The Third Section. The third section is the 49th parallel of Lat. N. for about 1,500 miles from the Lake of the Woods to the Juan de Fuca Strait, where the boundary runs through the centre of the Strait.

Across this frontier there are many natural routes, and these have been utilised for the various modern means of communication. The following are of great historic and economic importance.

(1) *The Gaps* in the mountains on the western frontier of Maine, through which run the railway lines from Portland and Boston to Montreal and Quebec.

(2) *The Hudson River Valley* is a gateway which has exercised a great influence on the military events of North America. It follows the line of the Hudson River from New York northwards, almost to Lake Champlain, whence the Richelieu River runs to the St. Lawrence near Montreal. A study of the various campaigns in North America shows the importance of this natural gateway from the United States to Canada. It was here that French troops attacked the forces of Abercromby at Ticonderoga, and it was again by this gateway that Jeffrey Amherst entered Canada in 1760.

The railway line from New York follows this route to Montreal.

On the remainder of the frontier from the St. Lawrence to the Straits of Juan de Fuca, natural physical features do not limit the direction of movement except in the region of the Rockies and their foothills.

*The Bound-
ary between
Canada and
Alaska*

The history of the Canada-Alaska frontier has been told in Chapter I. The boundary line is mainly along a range of hills, until the line of longitude 141° W. is met and followed north to the Arctic seas. The only gateway of importance is the Chilkoot Pass through which the American light line starting from Skagway runs into the interior, as far as White Horse. This line and the port of Skagway may be of great importance if the Mackenzie River oil-wells prove to be a commercial success.

*Mineral
Resources*

The mineral resources of Canada are considerable and widespread. Easily mineable coal is found chiefly in Alberta and British Columbia, though there are important smaller deposits in Newfoundland, Nova Scotia, New Brunswick and Saskatchewan. Most of the Alberta coal, however, is lignite, which requires a special process to be of use for manufacturing purposes, and the good supplies of hard coal come from the two ends of the southern frontier, remote from the industrial centres in the neighbourhood of Montreal and Toronto. Nor in any case are the supplies produced sufficient for home requirements and considerable quantities are therefore imported from the United States.

The development of the coal industry has no doubt been handicapped by the easily tapped sources of energy in the form of water-power. These have been rapidly developed, for they offer the advantages of being widely distributed except in the prairie provinces, of requiring little labour after the initial expenditure, and of giving electric power which is easily transmitted over large distances. The hydro-electric power is practically all derived from the neighbourhood of the frontier.

The iron resources of Canada are mainly confined to British Columbia and Nova Scotia. Large deposits of excellent iron ore exist near the Pacific coast, but are as yet practically untouched owing to lack of capital. Indeed, the prospect of a great iron and steel industry working on Canadian

ores in the near future, appears to be small ; on the contrary, the probability is that as Canada develops she will continue to import large quantities of iron and steel from the United States and other countries.

Large quantities of copper ore are produced, most of which is exported to the United States. More than half of the total production is to be credited to British Columbia, and most of the remainder comes from Ontario where it is derived from the nickel-copper ores of Sudbury. The production in both regions is likely to increase, and it is anticipated that Canada will eventually make a very important contribution to the world's supply of this metal.

Mines at Sudbury in Southern Ontario provide about 80 per cent. of the world's supply of nickel ore, the only other source of importance for which is New Caledonia. The Canadian supply is smelted in Canada, but the refining processes are not carried out there, approximately 50 per cent. of it being refined in the United States, and the balance in Great Britain.

The virtual monopoly which Canada possesses in regard to this metal, necessary in industry and indispensable in war, is very important.

Lead is produced in British Columbia, the Yukon, Ontario and Quebec, but that from British Columbia is alone of importance.

British Columbia also produces about 6 per cent. of the world's supply of zinc ore.

As in the case of nickel, Canada is markedly predominant in its possession of asbestos, of which it supplies 85 per cent. of the world's total. The most important deposits are in the province of Quebec.

Gold is produced in Ontario, Northern Quebec, British Columbia and the Yukon district in fairly large quantities and in minor quantities in other provinces. The Porcupine district of Ontario and the Klondyke region of the Yukon are of particular importance. Ontario also, in the Cobalt district, produces practically all the silver and cobalt mined in Canada.

Though the mineral wealth of the Dominion is great, it is completely overshadowed at present by its agricultural wealth.

*Agricultural
Resources*

It is stated that of the 1,400,000,000 acres which comprise the nine Provinces (excluding the North-West Territories and the Yukon) 441,000,000 acres or 31 per cent. of the whole are capable of being devoted to agriculture. Of this available area barely a quarter is at present occupied as farm land.

For the production of wheat the great prairie provinces, Manitoba, Saskatchewan and Alberta are pre-eminent and together with the corresponding plains of the United States they form the most important wheat fields in the world. The actual wheat crop produced is now large enough to feed not merely Canada, but the entire population of Great Britain as well. This is especially important in view of the fact that Canada can export 75 per cent. of her crop, whereas the United States with her enormously greater population seldom has a surplus for export of more than 25 per cent., and this tends to diminish. Further, each year sees the opening up of new wheat lands, such as the Peace River wheat region, and a corresponding increase in production and exports.

While wheat stands supreme as the chief crop in Canada, enormous quantities of oats and barley are also produced and exported. Maple syrup and sugar, sugar beet, flax, tobacco are special crops grown principally in Eastern Canada. The fruit growing industry of southern Ontario, the Niagara Peninsula, and British Columbia is becoming of world importance. Dairy products, chiefly from Quebec and Ontario, are being exported in increasing quantities. One and a quarter million square miles of the Dominion are covered by forests, and the lumber industry of the eastern provinces and of British Columbia, the wood pulp and paper industry of Quebec and Ontario, the manufacture of artificial silk from Canadian spruce and a multitude of other activities such as the production of linoleum, dynamite and gramophone records from wood pulp have an ample supply of timber on which to draw.

Chief
Economic
Regions

From this brief summary of resources, it is evident that Canada can be conveniently divided into three economic regions.

- (1) *From the Atlantic to the Western boundary of Manitoba.*

This area includes the coal and iron resources of Nova Scotia and New Brunswick, the nickel, silver, copper,

cobalt and gold of Ontario ; mixed farming regions round the St. Lawrence ; the fruit farms of the Niagara peninsula ; the large industrial centres of the St. Lawrence and Great Lakes region ; and the fresh water fisheries of the Great Lakes and of Manitoba.

- (2) *The prairie provinces of Saskatchewan and Alberta* contain the great wheat and grain fields of Canada. Ranching occupies the rolling country on the slopes of the foothills beyond Calgary. Immense mineral resources, of lignite and natural gas, are present in Alberta.
- (3) *British Columbia* of which the chief industries are fruit farming, timber, mining and fisheries.

Canada extends from the latitude of the South of France to *Climate* the latitude of the Arctic regions, and lies for over 3,000 miles from east to west. Its climate is "continental," and is equable and temperate in the lower latitudes of the maritime provinces but subject to extreme variations in the centre.

Thus, though the Great Lakes are never completely frozen, their harbours are generally filled with ice-floes during the period December–February, and even to the middle of March, while the River St. Lawrence is frozen from the middle of December to the middle of April. Hudson Bay is only open for five months in the year, from July–November. The harbours on the coast, however, such as Halifax (Nova Scotia) and St. John (New Brunswick), and Vancouver, Esquimaux and Prince Rupert in British Columbia are never closed.

The Canadian Pacific Railway, begun in the year 1871 and completed in 1886, has ensured the development of the central plains, was chiefly responsible for the settlement of Manitoba, Saskatchewan and Alberta, and disposed of all United States' claims to British Columbia. It has therefore been one of the most vital factors in Empire expansion and in the expansion of the Dominion of Canada. It commences at the ice-free port of St. John (New Brunswick), then leaves Canadian territory and crosses the base of the Maine salient. It enters the province of Quebec near Megantic, and passes through the important junction of Sherbrooke to the St. Lawrence and Montreal. From Montreal the line runs through Ottawa, and along Lake Superior to Winnipeg, which is the bottle

Lines of Communication Railways—Canadian Pacific Railway

neck of all Canadian railways and thence to Regina, Medicine Hat, and Calgary. Here it begins to ascend the rising ground of the foothills of the Rockies ; it crosses the Kicking Horse Pass, and the other parallel ranges (the Selkirk Range, Gold Range and Coast Range), and finally reaches its terminus at Vancouver.

An alternative C.P.R. transcontinental route, runs to Vancouver from Winnipeg via Lethbridge, south of the main route. This line crosses the Rockies at Crow's Nest Pass, but a portion of the journey must be done by steamer on Lake Kootenay.

*Canadian
National
Railways*

The Canadian National Railways consist of the Grand Trunk Pacific, the Grand Trunk, the Inter-Colonial and Canadian Northern Railways which have been taken over by the Government of the Dominion. The main line commences at Halifax in Nova Scotia and runs through Canadian territory throughout to Montreal (via Victoria Bridge), and to Levis, opposite Quebec, near which it crosses the Quebec Bridge. From Quebec the route lies considerably to the north of the Canadian Pacific until Winnipeg is reached. From Winnipeg, it passes through Saskatoon and Edmonton, then crosses the Rockies at the Yellow Head Pass, and has its terminus on the Pacific coast at Prince Rupert.

Canals

The value of the great natural waterways, consisting of the River St. Lawrence and the Lake system, has been greatly increased by the construction of canals, which avoid the rapids existing at various points. The most important trade routes of this type are :—

- The Erie Canal.
- The Welland Canal.
- The Sault Ste Marie Canals.
- The Lachine Canals.
- The Rideau Canal
- The Soulanges Canal.

The Erie Canal, completed in 1823, is the oldest of the trade routes of this type which affect Canadian trade, though it runs entirely through territory of the United States.

runs from Lake Erie at Buffa'o across United States' territory to the Mohawk River, a tributary of the Hudson

River. The Mohawk is canalised as far as the Hudson River, which in turn is navigable to New York, so that prior to the building of a network of railways, this formed an important highway from Central Canada to New York, and thence to Great Britain. It is still used to some extent as a wheat route from Saskatchewan, Alberta, etc., but the shallowness of the canal (12 ft. deep) and the large number of locks (72), together with the opening of other routes, have reduced its importance.

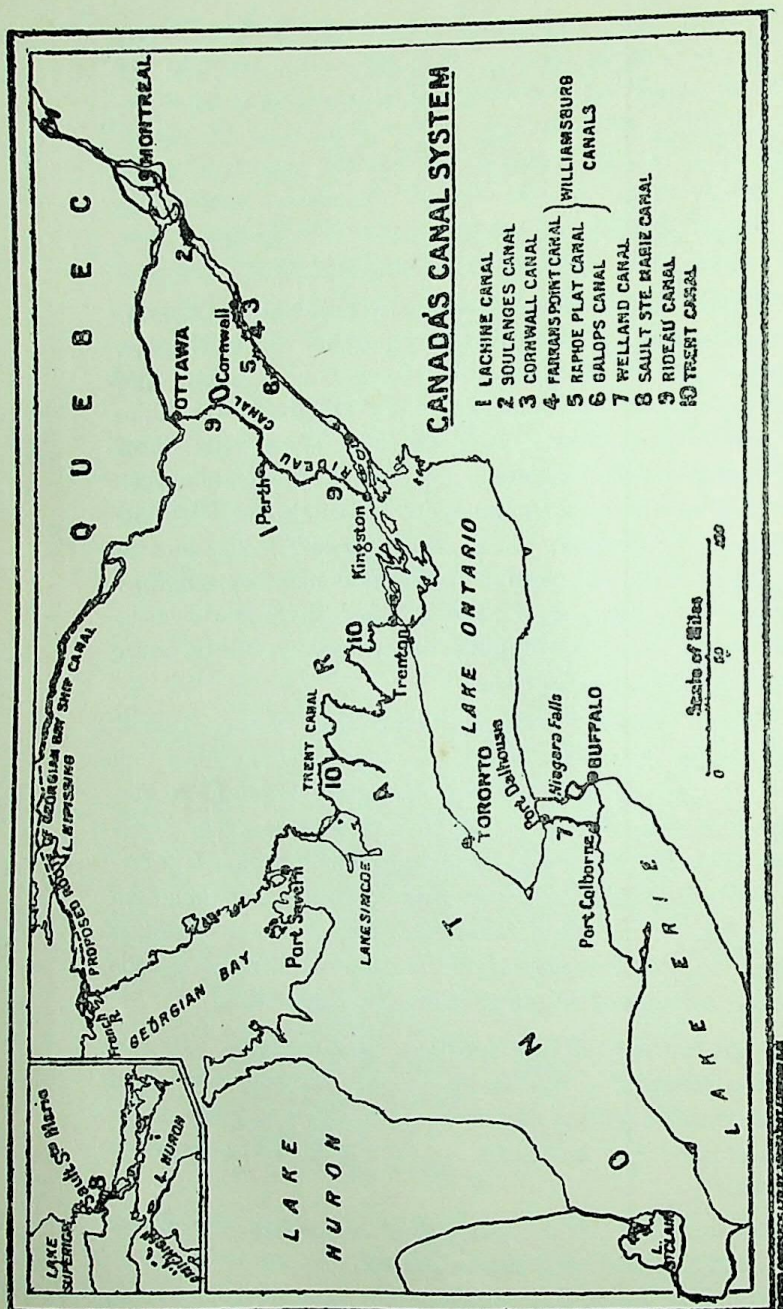
The Welland Canal connects Lake Erie and Lake Ontario, and runs through Canadian territory parallel to the Niagara river which cannot be navigated owing to the falls. The terminal ports of the canal are Port Dalhousie on Lake Ontario, and Port Colborne on Lake Erie. This canal is of special importance to Canada as it is the only navigable route at present from the St. Lawrence into Lakes Erie and Huron, and is entirely Canadian. It has a length of 27 miles but its present depth does not permit of the movement of warships or large cargo ships. A portion of the canal, however, is being altered and when complete the waterway will have an average depth of 25 to 30 feet.

The Sault ("Soo") Canals—connecting Lake Huron and Lake Superior at Sault Ste Marie—are two in number, one being on the American side of the boundary line and one on the Canadian side. These canals though only about one mile long are probably the most important bottle-neck of water-carried trade in North America. A great tonnage of Canadian wheat, together with much American produce, passes through them, and the total yearly traffic of the two canals exceeds the yearly tonnage of shipping using the Suez Canal.

The Lachine, Cornwall and Soulanges, and a number of minor canals circumvent the rapids on the St. Lawrence between Montreal and Kingston, and thus with those already mentioned complete the navigable system from Lake Superior to the sea.

The Rideau Canal is a connecting link along the River Rideau from the St. Lawrence to Ottawa.

The special value of this canal system is in relation to the wheat transport of Canada. Much of the wheat coming from Alberta and Saskatchewan, after passing through



MAP 14.—Sketch Map of Canada's Canal System, showing the proposed route of the Georgian Bay Ship Canal

Winnipeg, goes by rail to Port Arthur or Fort William on Lake Superior, where it is loaded on vessels of draught sufficiently small to pass through the canals and called from their appearance "whale-backs." In these vessels it passes via the "Soo" canals to Lake Huron and Lake Erie. From Lake Erie it may proceed by rail (from Buffalo) or by water (the Welland or Erie Canals) to ports such as New York and Montreal, where it is transferred to ocean going vessels.

A serious objection with regard to these routes is that the depth of the canals does not permit of ocean-going ships sailing direct from Port Arthur to Great Britain, and the transshipment or loading on rail, and later on ship again, adds considerably to the cost. This disadvantage may be removed by a scheme at present under the consideration of expert Committees nominated by the Canadian Government and the United States. The plan under discussion provides for the construction of a deep channel in the upper reaches of the St. Lawrence : for the construction of four great canals instead of the small ones now in existence in order to avoid the dangerous rapids, and for the deepening of the Welland and "Soo" canals. The object is that ocean-going ships should be able to sail from points in the interior such as Port Arthur and Fort William in Canada, and Chicago, Milwaukee, Duluth and Superior in the United States, and thus avoid the tedious and costly series of transshipments necessary at present. In addition, the necessary construction of four large dams for the canals on the St. Lawrence river would furnish a volume of hydro-electric power sufficient to provide lighting, heating and traction within a radius of 300 miles.

A number of serious objections have been retarding the discussion of this scheme in Canada. The first is the cost of the project which would eventually amount to between £50,000,000 and £100,000,000, of which Canada would have to pay approximately half. Further, the water-way would be icebound during the winter months, the expensive system of wheat elevators already in existence would become almost a dead loss, and the St. Lawrence route is said to be difficult and even dangerous for shipping at all times owing to fog, icebergs and shoals. Another objection raised in Canada is that the "peaceful penetration" of Canada by the United

The Proposed St. Lawrence Ship Canal

States is sufficiently acute at present without rendering it more so. American eagerness to make an early beginning on the scheme has therefore been interpreted unfavourably in eastern Canada. On the whole, however, the line of cleavage has been between east and west, not between Canada as a whole and the United States. Opposition is strongest in the great centres on or near the Atlantic seaboard, such as Montreal, New York, Boston and Portland, which foresee a heavy slump in the harbour dues received at present on wheat and other commodities transhipped at these ports. The demand for the scheme, on the other hand, comes most strongly from western centres such as Chicago and Winnipeg which clamour for cheaper freights.

*The New
La Pas-
Fort
Churchill
Railway.*

A study of a map of communications in Canada shows that it has lacked any form of back-door entrance, remote from the United States. Such an entrance has now been provided. A railway originally designed to run from Le Pas to Port Nelson has now been completed to a terminus at Fort Churchill, further north on Hudson Bay. The shortening of distance by this new route is very remarkable in the case of shipments sent from points west of Winnipeg, the approximate saving to Liverpool being 900 miles ; or a matter of 10 cents per bushel. The disadvantage of the route is that Hudson Bay is only open for five months in the year ; but, on the other hand, it is stated that the ice found there is of a type which can easily be dealt with by modern ice-breakers, and that a clear passageway can be kept open throughout the winter. If this should prove to be the case, the Le Pas-Fort Churchill route will be of very considerable importance to the Prairie Provinces.

THE DEFENCE OF CANADA

It is generally agreed that an attack on the land frontier of Canada is inconceivable. Ties of race, language, sport, finance, industry and commerce bind Canada and her great neighbour. Competitive armaments are unknown. The Rush-Bagot Treaty of 1817 which limited the naval forces of both countries on the great lakes to a negligible amount has been scrupulously observed, and the "unguarded frontier" is a source of pride to the people of North America.

Were it otherwise, the problems of defence of Canada would be extremely difficult for the following reasons :—

1. The inhabitable part of Canada is a comparatively narrow belt, two to three hundred miles in width, along the southern frontier. Within this belt are situated all the most important cities and industrial areas of the Dominion. Every vital manufacturing centre is close to the frontier and most of them are in the neighbourhood of the St. Lawrence or the Great Lakes, whereas those of the United States are not all concentrated near the boundary between the two countries.

2. The transcontinental communications of Canada are also within this belt. The Canadian Pacific Railway, indeed, runs through the State of Maine shortly after leaving the terminus at St. John ; the Canadian National line closely skirts the northern boundary of the same state. Most of the railway junctions of first-class importance are not remote from the frontier. Sherbrooke on the C.P.R., where lines to St. John, Montreal and Boston meet, and Montreal itself are less than 50 miles from the nearest points on American territory ; Winnipeg, the bottle-neck of all railway communications from the eastern to the western Provinces is 63 miles from the frontier, and Vancouver the terminus on the Pacific side is only a few miles from the boundary line. Further, the " Soo " canals, which join Lake Superior and Lake Huron and which carry a great part of the wheat traffic from the Prairie Provinces on its way to the ocean ports, are situated along the boundary line itself.

3. The essential mineral resources of Canada, with the exception of nickel, asbestos, and gold are undeveloped. Hard coal, suitable for manufacturing purposes, is not produced in quantities sufficient to meet more than 50 per cent. of the normal peace demand, and the balance is imported, chiefly from the United States which has minefields in close proximity to Canadian industrial centres. The hydro-electric power which is used as a substitute for coal is chiefly produced on the St. Lawrence system of waterways, and in some cases such as the Niagara supply comes from the region of the boundary itself.

4. Lines of sea communication from Great Britain to ports

such as Halifax and St. John must pass within a region where American naval power would probably be predominant. Lines of communication by the St. Lawrence to Quebec and Montreal are hazardous owing to fog and ice from December to April. There is no ocean port on the northern side of the St. Lawrence until Quebec is reached, nor any railway communication on that side from the Atlantic to Quebec. The new route from Liverpool to Fort Churchill is only open from July until November owing to ice in Hudson Bay and its outlet.

On the Pacific side, sea communications from other British Dominions or from naval bases such as Sydney, Singapore and Hong-Kong to Esquimaux and Vancouver pass across 5,000 miles of open ocean, and are flanked by first class American bases at Pearl Harbour, San Francisco and Puget Sound.

5. The population of Canada (9 millions) is less than one-twelfth that of the United States and is not increasing at a more rapid rate. It is not homogeneous in race or language, only 55 per cent. of it being of British stock, while 28 per cent. is French and the remainder comes from various European races. Further, the lack of homogeneity appears to be slowly increasing, though this is no doubt balanced to some extent by a natural process of assimilation which is going on.

THE IMPERIAL ASPECT OF CANADA

From a wider imperial standpoint, Canada has various aspects of vital importance. Politically, its associations with both Great Britain and the United States are so many and so intimate that it serves as a connecting link between the two great Anglo-Saxon countries. Both would suffer through any decay in its fortunes; both share in any increase in its prosperity. Economically, it is the greatest actual and potential granary in the Empire and perhaps in the world. Already it is Great Britain's chief source of wheat supply; and only a small proportion of its 400 million acres of suitable land is under cultivation. Strategically it is the region through which passes one of the important lines of Imperial communication from Great Britain to the Pacific (see page 116).

But perhaps its chief importance is that at some future date it may be the home of a great part of the white population of the British Empire. Various estimates have been made of the population which it could sustain, and all agree that with its enormous acreage of agricultural land and its immense resources of lignite and water power it could hold a population of over 100 millions, or far in excess of any population which it is anticipated Great Britain can hold. Over a period of 40 years its population has increased at an annual rate of 18 per thousand, and there is no reasonable doubt that with the development of some process by which the lignite resources could be used commercially for manufacturing and with the general opening up of the country, this rate could be greatly increased. There is thus a prospect that this Dominion may be the centre of gravity of the British Empire at some time in the future.

THE COLONY OF NEWFOUNDLAND (WHICH ADMINISTERS LABRADOR)

Newfoundland, the oldest of the British Colonies, lies across the entrance to the River St. Lawrence, 1700 miles to the west of England and 70 miles north-east of Nova Scotia and has an area, about as large as that of Ireland and Wales combined. A rugged cliff-bound coast with deep sheltered arms of the sea merges into a sparsely populated interior, made up of great marshes, innumerable islanded lakes, large areas of moss-covered rocks ("the barrens") and long strips of woodland and coniferous forest running in parallel lines from north to south.

To the south-west of the island is a great submarine plateau only 150 feet below sea level known as the Grand Banks where meet the warm waters of the Gulf Stream and the icy current from Labrador, each bearing microscopic sea organisms which suffer from the changing temperatures of the meeting place and fall a prey to the cod and halibut.

At this meeting place of the warm moist air over the Gulf Stream and the cold air above the Labrador current condensation of the moisture in the air is produced, and gives rise to the fogs which often wrap the south-east coast of Newfoundland as in a blanket.

The temperature, for a land situated in the latitude of southern England, is severe, being chilled by the current from Labrador. In winter, the coast of the island is within the ice line and in summer within the floating iceberg line.

*Popu-
lation*

The total population is 260,000, practically all Newfoundland born and of pure British descent, chiefly engaged in fishing, lumbering and mining. 5,000 fought in the military forces in the Great War, and 3,000 served with the fleet, but this takes no account of the many who served and are serving with the Mercantile Marine.

Resources

Hematite iron ore of rich content is found in considerable quantities on both the east and west coasts, and is gradually being developed into a most important Imperial source. Coal also is found, but the island is not yet self-supporting in this respect and has to import for the requirements of shipping. Copper has been mined for many years, and silver, nickel, gold, asbestos and mica are also worked in small quantities.

The three most important commodities which Newfoundland produces are dried cod (mainly exported to Latin Europe), wood pulp for paper making, and iron ore which is exported and smelted in Nova Scotia.

*Imperial
Aspect*

Newfoundland is important in its Imperial aspect, from various points of view.

- (1) It is only 1700 miles from our western coast, is remote from the naval ports of the United States, has a loyal and hardy population and the prospect of developing industries. It could therefore provide, in case of need, naval ports which would serve as stepping stones between the home ports and Canada. For this purpose St. John's, Harbour Grace, Carbonear, or indeed any of the great bays like Trinity Bay, Placentia or Bonavista would be suitable, though at present, with the exception of St. John's, they have no well developed harbours.
- (2) Newfoundland is the landing place of many of the important Atlantic cables (Heart's Content, Harbour Grace and Bay Roberts) and has an important wireless station at Cape Race.
- (3) It is nearer to the British Isles than is any other part of

America and it flanks the shortest route from New York to London. Its position makes it the last land station for air liners about to cross the Atlantic in the future; and also a junction where the future air routes from Montreal and New York to Great Britain will probably meet.

It should be observed that the more important centres, cable and wireless stations and possible naval ports suggested above are on the Avalon peninsula at the south-east corner of the island. This small peninsula is the veritable nerve centre of Newfoundland, and also of the cable system of the North Atlantic.

MILITARY FORCES OF CANADA

The Military Forces of Canada are constituted under the Militia Act of 1906. By that Act all male inhabitants between 18 years and 60 years, not exempt or disqualified by law, and who are British subjects, are liable for military service in the Militia in the event of a levy *en masse*. The Militia is liable for service in Canada or beyond Canada for the defence of the Dominion, and in time of war and training its members are subject to the Army Act.

It consists of three parts:—

1. The Permanent Active Militia.
2. The Non-Permanent Active Militia.
3. The Reserve Militia.

The Permanent Active Militia corresponds to the permanent staff of the Territorial Army at home. It trains throughout the year and completes annually the Musketry Course laid down for the Regular Army in this country. Officers pass the same promotion examinations as are prescribed for officers of the Regular Army, and are detailed together with non-commissioned officers of the permanent force to assist and superintend in the training of the non-permanent Militia at depôts or camps of instruction. *The Permanent Active Militia*

The Non-Permanent Active Militia is made up of corps raised by voluntary enlistment on a basis of three years' service, which may be extended to four years in case of emergency. Its members are liable to be called out annually for training not exceeding 30 days in any year, and complete a musketry course similar to that laid down for the Territorial Army at home. Owing to financial stringency, however, the period of training has in the last few years been considerably reduced. *Non-Permanent Active Militia*

No higher organisation than the Brigade at present exists, but the proportion of the various arms is worked out on the requirements of a field army. The units of the Canadian Expeditionary Force have been incorporated into the Canadian Militia in order to preserve their traditions.

The Reserve Militia is intended for the purpose of providing for the organisation of the officers and men who have completed their service in the Active Militia or have received a military training. *The Reserve Militia*

The Royal Military College, Kingston, gives cadets a military education together with a training in engineering, surveying and physics, and the course extends over four years. All appointments to commissions in the Canadian Permanent Active Militia are offered in the *Military School*

first instance to graduates of the college, while eight commissions in the British regular army are also offered annually, but the greater proportion of the cadets return to civil life and become officers in the Non-Permanent Active Militia.

In addition to the above there is the Royal Canadian Mounted Police, an armed body permanently employed and trained as cavalry. It is organised in 11 divisions each under a superintendent, and the whole force is commanded by a Commissioner whose headquarters are at Ottawa. The duties of the police are the maintenance of law and order in the North-west territories. The term of engagement is three years, and an annual course of training is carried out in all divisions.

Air Force

In Canada it is recognised that the war strength of the Air Force depends largely on the strength of civil aviation companies. The Dominion has therefore aimed at the development of civil aviation and the registration of pilots and mechanics for service in case of war.

The Royal Canadian Air Force is organised on a similar basis to the Land Forces, viz.:—a small permanent Air Force for instructional and operational duties, a non-permanent Air Force and a reserve.

Military, naval and air services are controlled by the department of National Defence, the President of which is the Minister of National Defence. He is assisted and advised by a small Council of 6, which includes the Chief of Staff, the Director of the Naval Service and a Finance Member.

THE NAVAL FORCES

The present strength of the Royal Canadian Navy consists of two torpedo boats, and four minesweepers, together with the victualling and other necessary units. Recruiting has been slow, and the ships of the Navy are used practically entirely as training centres.¹ The naval base is Halifax, Nova Scotia, but Esquimaux, British Columbia, is being developed, and in the event of operations in the Pacific would probably be of importance.

¹Canadian Officers immediately on appointment are transferred to ships of the Royal Navy, remaining there continuously until they become sub-lieutenants. After attaining that rank they are employed alternately in R.N. and R.C.N. appointments, thus bringing the two services into conformity in outlook and methods.

CHAPTER XI

AUSTRALIA AND NEW ZEALAND

A BRIEF SKETCH OF THE GEOGRAPHY OF AUSTRALIA

THE Australian Commonwealth, which includes the continent of Australia and the islands of Tasmania, comprises an area of about 2,970,000 square miles, and is therefore the same size as the United States, about four-fifths as large as Canada, and about 25 times as large as the United Kingdom. The Tropic of Capricorn cuts it in such a way that rather more of the area is to the south, *i.e.*, in the Temperate Zone—than to the north in the tropics.

The general physical features are very simple, and the continent can be divided into four regions.

From the eastern coast a narrow well-watered and well-timbered coastal plain of varying width runs inland. Then the ground rises to the Great Dividing Range, which traverses the whole continent from north to south, for over 2,000 miles, but turns westwards through Victoria.

The Great Dividing Range is known by local names in different parts, such as the Australian Alps, in New South Wales, and the Blue Mountains behind Sydney. Its distance from the sea varies very considerably, being in Victoria only about 50 miles, in New South Wales from 25–120 miles, and in Queensland very much greater. The mountains forming the range, are below the limit of perpetual snow, the highest peak being only 7,000 ft. high and they are cut by many transverse valleys which allow of easy communication.

After the Great Dividing Range is passed the land does not sink abruptly, but very gradually, to the central plain—a region occupying part of Victoria, New South Wales, Queensland and South Australia. In South Australia it falls to its lowest point in Lake Eyre, a shallow salt lake and marsh below sea level.

The central plain then rises very slowly into the western

*General
Physical
Features—*

*(a) The
Eastern
Coastal
Plain*

*(b) The Great
Dividing
Range*

*(c) The
Central
Plain*

(d) *The
Western
Tableland*

tableland, a block of ancient rock, which eventually falls rapidly on the west to a narrow coastal plain, and, on the south, ends in a cliff escarpment 200–300 ft. in height. This cliff escarpment is unbroken for hundreds of miles from King George's Sound eastward, and there is consequently no harbour of any size between Albany and Adelaide. In Western Australia the tableland is broken here and there by low ranges of hills and by chains of swamps and numerous salt lakes.

Rivers

Owing to the narrowness of the coastal plain on the eastern side and the steepness of the Dividing Range on that side, the rivers are necessarily short and rapid. On the west and north of the continent the fall in the ground is so slight and the climate so hot, that, owing to evaporation, the rivers are sluggish, with many shoals, and in some cases do not succeed in reaching the coast at all. In the south the most important of the Australian rivers is the Murray, with its great tributaries the Darling and the Murrumbidgee. The length of the Murray is 1,300 miles, but evaporation and wastage are so great that, in the past, it has been of little use for navigation. At certain seasons of the year, however, when the river is not suffering from lack of water owing to drought, or too much water owing to excess of rainfall, steamers can make use of it from Albury on the Murray to Bourke on the Darling; but a passage to the sea is practically impossible as the route lies through the shallow Lake Alexandrina, and thence by a narrow bottle-neck to the sea. A conservation scheme is however at present being carried out which, it is hoped, will eventually make the Murray-Murrumbidgee a great Australian waterway and means of irrigation.

Other rivers which are used for traffic are the Roper, the Daly, the Adelaide and the Victoria in the Northern Territory, and the Norman in Queensland. The river Brisbane, 20 miles up which is the city of Brisbane, has been made navigable by much dredging, though shifting sands are a constant problem. The Swan river also, is navigable as far as Perth, which is 12 miles from the coast.

*Climate—(a)
Temperature*

The northern coast of Australia is as near the Equator as is the Malay Peninsula; the southern coast as is Spain or California; and the Tropic of Capricorn cuts approximately across the middle. Consequently the northern half is hot,

and the southern half in general is warm, though the temperature of particular places will depend on such factors as altitude, and distance from the sea.

The chief winds on the eastern side are the S.E. Trades, (b) *Rainfall* blowing towards the greater part of the coast over the warm Pacific current, and collecting and bearing moisture. When they reach the Great Dividing Range and rise to cross it, they are cooled, and the moisture condenses into rain. There is thus a fairly heavy rainfall on the east coast and coastal plain, and short, swift rivers. By the time the S.E. Trades have crossed the Great Dividing Range and traversed the undulating country beyond, they have been robbed of their moisture, so that the rainfall gradually decreases until a practically waterless desert in the centre and west is reached.

In the south and south-west there are the winter rains and summer drought, typical of a Mediterranean climate.

In Northern Australia there is a typical monsoon effect, owing to the fact that in the Australian summer (January) the interior becomes greatly heated, the warm air rises, and winds from the sea blow in, bringing much rain in the north-east. This is reversed in the winter (July). The land then cools, and the winds tend to move outwards, bearing no moisture, so that the rainfall is considerably less. To sum up, the east coast has a Trade wind climate with rainfall all the year. The south coast has winter rain and summer drought. The north coast has summer rain and winter drought; while the west and centre are dry throughout the whole year.

The chief farming areas are as follows :—

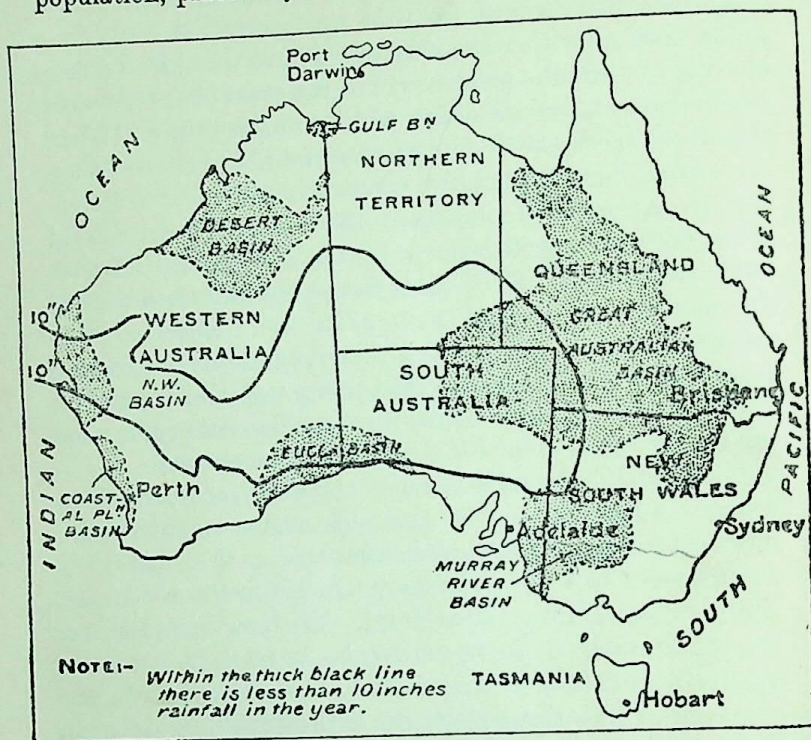
*Agricultural
Resources*

(1) The Queensland coastal plain which has uniform rain and tropical temperatures. Sugar is the main crop but dairy farming, maize and fruit are also important.

(2) The New South Wales and east Victorian coast and hinterland. Sheep farming and wheat production are carried on in the drier hinterlands, and maize, oats, fruit and dairy farming occupy the remainder.

(3) The west of Victoria, the east of South Australia and the south-west corner of West Australia where rain falls chiefly in the winter. Wheat is the chief crop, but dairy farming and fruit are increasing in importance.

In these three areas are concentrated 99 per cent. of the population, practically all the farming and a very large pro-



MAP 16.—Rainfall and Artesian Well Map of Australia. (The shaded portions represent artesian water areas.)

portion of the wheat and cattle of the Continent. In addition to the above, there is a large area of semi-desert in the interior to the west of the Dividing Range, suitable as pastoral country, provided that the constant difficulty of water supply can be surmounted by artesian wells or other methods.

The remainder of Australia includes the great central desert within the 10 inch rainfall line, having an area of about 1,000,000 square miles, and the tropical pasture lands of Northern Australia.

Wool is the chief product of the Commonwealth and Australia leads the world in the number of sheep. In wheat production it is ninth, and fruit, maize and sugar are becoming increasingly important.

Although the coal supplies of the country are not yet developed to their utmost, Australia is more than self-supporting. New South Wales possesses the most important coal basins, but coal is also mined in Victoria and Queensland. In Victoria there are large deposits of brown coal and lignite, while there are other important seams of black coal at Ipswich in Queensland.

*Mineral
Resources*

Extensive deposits of iron exist in every State except Victoria, and also on the north coast of Tasmania. Lithgow is the most important centre of iron production and manufacture. The quantities produced, however, in the Commonwealth are comparatively small, and have to be supplemented by imports from Great Britain and the United States. In the last few years the development of native resources has been increasing owing to bounties paid by the Commonwealth on black steel sheets and galvanised sheets produced in Australia (Iron and Steel Bounty Act, 1918).

The greater part of Australian copper supplies comes from mines in South Australia, and enormous deposits of very rich ore are known to exist over an area of several thousand square miles in the Cloncurry district of Queensland.

The silver-lead mines at Broken Hill are the largest of the kind in the world, and together with the other chief Commonwealth source at Zechan in Tasmania produce about 120,000 tons of metallic lead per annum. Tin is found in every State, but the largest supplies come from Tasmania and Queensland.

There are few alluvial gold diggings left in Australia, but the quartz reefs in Victoria, New South Wales and Western Australia provide a very substantial amount of gold year by year. The most important single field is the Kalgoorlie field in Western Australia.

COMMUNICATIONS

The chief trade routes are :—

(1) From the east and south-east ports via Sydney, Melbourne, etc.—Cape Leeuwin, Indian Ocean, Colombo, Aden, Suez Canal, Mediterranean.

*Trade
Routes to
and from
Australia*

(2) Via Cape Leeuwin, Cape of Good Hope, South Atlantic, North Atlantic.

(3) From east and south-east ports there is another route

which runs inside the Great Barrier Reef. This natural breakwater, which in some parts is nearly 100 miles broad and formed of coral, lies parallel to the coast from Torres Strait for more than 1,000 miles southward. The passage-way is 15-80 miles in width, and is an admirable protected channel for communications between Sydney, Brisbane and other ports to the north. The track followed by this route is via Barrier Reef Channel, Cape York, Torres Strait, through the deep water channel north of Thursday Island to Singapore, where the route branches off to Madras, Calcutta, etc.

(4) The Panama Canal route to North America and the Atlantic. The southern ports are almost equally distant from Great Britain by the Panama and Suez Canals, but the Panama Canal possesses the disadvantage of having few important ports of call along it.

Railways

The railway system of Australia suffers from three serious defects :—

- (1) Lack of uniformity of gauge.
- (2) Lack of lateral communication.
- (3) Lack of any connecting link between Port Darwin and the rest of the Continent.

• These defects may be ascribed to the fact that the lines were constructed by the various States which comprise the Commonwealth at a time when there appeared to be no prospect of a federation, and when mutual jealousies played a greater part than a common policy. Thus Victoria and South Australia adopted a 5 ft. 3 in. gauge in the early days of railway construction, while New South Wales selected the British standard (4 ft. 8½ in.). South Australia later added a considerable mileage on the 3 ft. 6 in. gauge which was also chosen by Queensland and West Australia. Later still, when a trans-continental link was built from Kalgoorlie to Port Augusta by the Commonwealth Government, the 4 ft. 8½ in. gauge was chosen. There is thus a complete muddle of gauges, and a journey from Fremantle to Brisbane entails at present no less than five changes in a distance of 3,500 miles.

The parochial policy adopted is further illustrated by the number of lines which were built right up to State boundaries

and there stop short lest they should convey traffic from the hinterland of one State to the port of another. Lateral communication within the country is therefore difficult and, in the case of the areas remote from large cities, absent almost entirely; while in the interior of Queensland, in particular, there is no line connecting the various railheads in the interior.

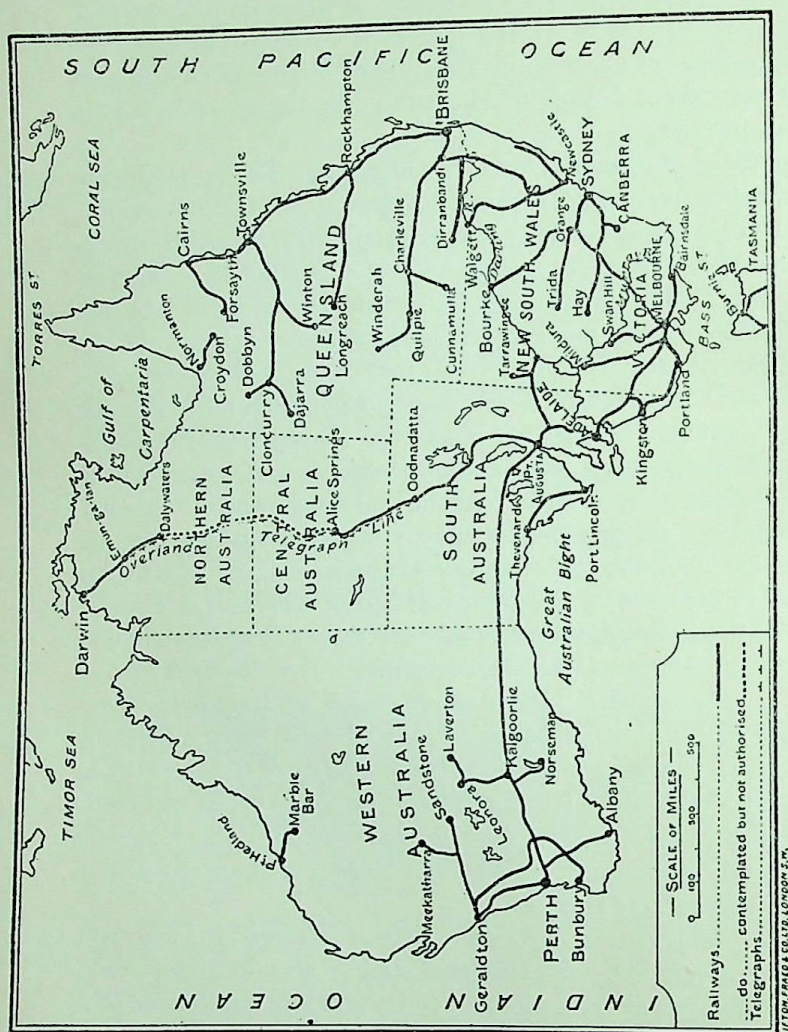
Although the delays to commerce and the strategic im-
Changes of Gauge
 plications are serious, little was done to rectify this muddle until 1921, when a Royal Commission recommended the adoption of a 4 ft. 8½ in. gauge as the standard for the Commonwealth. This policy was later definitely approved by the Commonwealth Government and the governments of the various States, with the proviso that the unification should be carried out in stages. The first stage, which is under construction, will provide a through line of 4 ft. 8½ in. gauge from Fremantle to Brisbane along the existing routes, and will convert the 5 ft. 3 in. gauge lines of Victoria and South Australia to this standard. It requires not merely alterations in the running gauge; but also in the loading gauges as well, and this means heavy constructional work in connection with bridges, tunnels, buildings and platforms to permit of the use of broader and higher rolling stock on some sections.

A scheme which was also considered by the Commission, *Lateral Communication*
 and which will probably be carried into effect when the financial situation permits, is the joining up of the railheads in New South Wales and Queensland by a line which will eventually extend to Daly Waters, and thus give much needed lateral communication in the interior, and eventually a railway to Port Darwin.

A proposal to remove the isolation of Port Darwin by a *A North-South Line*
 south-north line was considered, and as an initial measure in 1929, a railway from Adelaide to Oodnadatta was extended to Alice Springs. It is proposed to extend this line at some future date from Alice Springs to Daly Waters along the route of the Overland Telegraph wire.

POLITICAL DIVISIONS

The Commonwealth consists of the following political divisions:—



MAP 17—Sketch Map of Australian Railways, showing Existing and Proposed Continental Routes.

1. *New South Wales*. Capital, Sydney.

The area of New South Wales is about as large as that of France and England together. It is rich in all minerals except iron. The two harbours of importance are the magnificent harbour of Sydney—Port Jackson, the base of the Royal Australian Navy—and Newcastle, which has admirable supplies of coal from the mines in the vicinity.

2. *Victoria*. Capital, Melbourne.

The area is approximately the same as that of Great Britain, and it possesses the best climate and probably the most fertile land on the Australian continent. The chief harbours are Melbourne, with its harbour Port Phillip at the mouth of the Yarra River, and Geelong also on Port Phillip Bay.

3. *South Australia*. Capital, Adelaide.

The rainfall and artesian well map shows that the important part of South Australia lies round the two arms of the sea—the St. Vincent Gulf, and Spencer Gulf. In the neighbourhood of these gulfs there is good agricultural land, but the remainder of the State consists for the most part of bare hills, desert and salt lakes. The harbours are Port Adelaide, the port for Adelaide which is nine miles from the sea, and Port Pirée on Spencer Gulf.

4. *Queensland*. Capital, Brisbane.

Much of the territory of Queensland lies in the tropics, but is nevertheless capable of great development in the production of sugar-cane, tobacco, etc., provided acclimatised labour is available. In the southern part vast uplands beyond the Dividing Range, known as the Darling Downs, are some of the best cattle and sheep areas in Australia. The harbours are :—Brisbane, 20 miles from the mouth of the river Brisbane, and possessing a plentiful supply of coal from the coal fields at Ipswich ; and Rockhampton, the starting point of a railway which runs inland as far as Longreach.

5. *Western Australia*. Capital, Perth.

Western Australia has a total area of about 1,000,000 square miles. The portion which is of importance, however, is the S.W. corner, originally known as the Swan River Colony,

lying round Fremantle, Perth and Albany. The important harbours are Perth, 12 miles from the sea on the Swan River, which is navigable for small boats; and Fremantle, which suffers from adverse winds and currents which make navigation difficult at certain periods of the year. Albany on King George's Sound, has, since the development of Fremantle and Perth, declined in importance, but is still a coaling station.

6. *Tasmania.* Capital, Hobart.

Tasmania, about 150 miles distant, across the Bass Straits is mountainous, with a valley running from Launceston in the north to Hobart in the south, through which the main line of railway passes. It possesses a good climate and fertile soil, and exports considerable amounts of fruit, wool, timber, in addition to minerals such as copper, tin and zinc.

7. *Northern and Central Australia.*

Northern Australia is that part of what was called the Northern Territory which is north of Lat. 20° S. Its chief harbour is Port Darwin, from which runs the railway through Pine Creek to Daly Waters, and its seat of government is at Newcastle Waters. Central Australia has its capital at Alice Springs, which is now the terminus of the line through Oodnadatta from Adelaide.

8. *The Federal Capital Territory.*

Owing to the rivalry between Sydney and Melbourne in respect to the seat of the Commonwealth capital, a compromise was entered into at a conference of State premiers in 1908 by which New South Wales surrendered to the Commonwealth an area of 912 square miles, known as the Yass-Canberra Territory. The building of the capital city at Canberra is being proceeded with and the movement of the Government to the new capital has taken place. At Jarvis Bay, about 28 square miles of land and water have been granted by the New South Wales Government to be used as a dock in connection with the Federal capital, and the Royal Australian Naval College has been established in this area on a site known as Captain's Point.

9. *Other territories of Australia, external to the Continent.* viz. :—Norfolk Island, 930 miles from Sydney; Papua and the mandated territory of German New Guinea.

POPULATION PROBLEMS OF AUSTRALIA

Much controversy has centred round two aspects of the population of Australia :—

(1) Its capacity to hold a population commensurate with its area ;

(2) The desirability of the development of its tropical parts by coloured races.

With regard to the first, it is now generally recognised that estimates of the future population of Australia based purely on comparisons of its area with the United States or other countries are not satisfactory. Almost one half of the continent has less than 10 inches of rainfall and is either desert or semi-desert (1,300,000 sq. miles). Probably another one million square miles are suitable only as pasture lands where herds of sheep or cattle can be fed provided they move from place to place over wide areas, but where dense populations cannot be supported. Two hundred thousand square miles of the remainder are rugged and mountainous. Of the remaining 400,000 square miles only about one-fifth has a fairly heavy uniform rainfall. If these estimates are accepted, Australia shrinks to the size of France or Italy, and various recent estimates of future population therefore put the capacity of the Commonwealth at from only 30 to 70 millions. The population to-day is about 6 millions ; during the last forty years it has increased more rapidly than that of any other country of the world except New Zealand, and if the same rate is maintained (22 per thousand) it should reach the thirty million mark in less than 70 years from now.

Other authorities, however, take a different point of view. They state that much of the semi-desert area could be irrigated by artesian wells ; and that the lack of communications, changes of gauge and the strenuous maintenance of unduly high social and industrial standards are retarding the development of the country. They further suggest that there are large areas of tropical Queensland and Northern Australia which are only undeveloped because their climate does not permit the white race to carry out the necessary pioneering work. They therefore suggest that these areas should be

opened to immigration for the coloured peoples of the Empire, and so made as productive as countries like Java.

"A White Australia"

Australia, for many years, has definitely set its face against such a policy. Complete exclusion of all British or foreign Asiatics, except students, merchants or visitors in possession of passports, has been ensured by legislation. By the Immigration Act of 1901 "any person who fails to pass the dictation test; that is to say, who, when an officer dictates to him not less than fifty words in any European language fails to write them out" can be excluded, and this mode of exclusion has operated, as it was designed to do, chiefly against Asiatic immigration.

The language chosen is selected by the immigration officer and the test is thus "not so much a test of fitness for admission as a flexible method of exclusion. Difficulty in applying it has occasionally arisen in regard to undesirables of unusual linguistic attainments. In one such recent case concerning an international rogue recourse was had with success to Gaelic."

The supporters of the policy of "a white Australia" form much the greater section of the Australian public. They base their belief on the following grounds:—

- (1) Australia is already second in the world in rate of increasing population. Its progress cannot therefore be regarded as so slow as to provide an incentive for political difficulties with other countries which may be densely populated.
- (2) No assurance could be obtained that Asiatic immigrants, if allowed to enter the tropical parts, would be content to remain there and develop those parts. Indeed the probability is, to judge from past experiences, that they would tend to congregate where white pioneering had already produced settled conditions. Problems of mixed races, franchise, and the lowering of industrial standards would thus arise.
- (3) Each Dominion has the right to determine, as India has, the composition of its own population. No slight should therefore be felt by the coloured races of the Empire, if Australia exercises this undoubted right.

- (4) It has not been proved that coloured labour is more competent to develop rapidly the tropical areas of Queensland than the white settlers who are already there, and statistics appear to point to a contrary view.
- (5) Asia, Africa and to a great extent South America appear likely to be peopled in the future almost entirely by coloured peoples. It is therefore desirable that the three smaller continents, Europe, North America and Australia should be reserved for the white races.

It is clear, however, that while the preservation of Australia as a home for the white people is very important, particularly in view of the comparative proximity of the great reservoirs of coloured population in Asia, a strong title should be established by rapid and effective development and by occupation by a quickly increasing vigorous white population. The notable falling off in immigration from Great Britain to Australia in the post war years, as compared with the three years before the war is therefore very unfortunate. The various schemes worked under the Empire Settlement Act of 1922 have not been completely successful. Thus the Group Settlement Scheme by which groups of men or families who had some association of place or kindred in Great Britain were allotted areas in Western Australia and, under supervision, carved out farms from the virgin bush has now been abandoned. It was found that the cost of paying these men for their labour, when added to the cost of the land gave a total cost which was frequently more than the land was worth. In general, certain factors have operated against a great flow of immigration. Capital for the development of communications, irrigation, etc., has been wanting; and markets for the produce have been less resilient. The high level of wages in Australia makes development of any kind expensive, and the growth of a large city and industrial population makes unemployment a constant danger. This last feature of Australia is very important and remarkable in a country whose chief wealth is agricultural. The capitals of the six states had in 1927 a combined population of over 2,900,000 as against a total population in the Commonwealth of 6,300,000. In fact, the urban population of Australia represents over 60

*The Progress
of White
Immigration*

per cent. of the total, and less than 40 per cent. of the people are employed directly in agricultural pursuits. The fear of increasing this already over heavy town population is undoubtedly one of the causes which have delayed rapid immigration; and this fear is apparently justified, at present, by the comparatively serious unemployment which exists and which has compelled the Australian Government to stop, at least temporarily, all Government assisted schemes of migration.

AUSTRALIAN DEPENDENCIES

Papua

The half of the island of New Guinea which lies west of Long. 141° E. belongs to the Dutch. Up to 1883 the remainder was not occupied by any European Power. In that year Queensland—realising that a hostile power in control of south-eastern Guinea and the islands and coasts opposite Cape York might be able to close the entrance to the splendid waterway inside the Great Barrier Reef—landed and annexed the coastline without permission from the British Government. The act was disallowed, but in 1884 a British Protectorate was proclaimed over the region, and in the following year an agreement with Germany fixed boundaries, dividing eastern New Guinea into the German Protectorate known as “Kaiser Wilhelm Land” and a British Protectorate in the south. In 1888 the protectorate came to an end, and British New Guinea was declared a colonial possession of the Empire; and later in 1906 was transferred to the authority of the Commonwealth under the name of “Papua.”

Climate, Resources and Com- munications

Papua lies completely within the tropics, is mountainous, with a narrow coastal plain which is generally low and swampy. There are many excellent harbours, the most important of which are Port Moresby (the capital), Samarai and Daru. Steamers trade between Sydney and Port Moresby, and the most important river, the Fly River, is navigable for many miles in smaller boats. The chief exports are copra, gold, hemp, pearls, osmiridium and rubber, but development has been slow owing to the climate, and difficulties of transport. Indications of petroleum were found over an area of 1,500 miles in the Gulf division of Papua between Yule Island and the Purari delta, and the Anglo-Persian Oil

Company conducted boring operations in these places on behalf of the Commonwealth Government, but without success.

Immediately after the outbreak of war, an expedition from Australia occupied Kaiser Wilhelm Land and by the Treaty of Versailles a mandate for the territory was given to His Majesty on behalf of the Government of the Commonwealth. The regions so conferred on Australia were the mainland (Kaiser Wilhelm Land), the Bismarck Archipelago, and the Solomon Group.

The Territory of New Guinea

The mainland consists of a narrow but very fertile strip, with a mountainous and well-wooded interior, much of which still remains to be explored. The most important harbours are Madang and Alexis Hafen. Minerals are plentiful in the interior, but not yet produced in any quantity owing to difficulties of transport. Traces of oil too, have been found, but a thorough examination by the Anglo-Persian Oil Company in the basin of the Sepik River has not been encouraging. There are no railways. Sea communications depend almost entirely on the subsidized mail service of Burns Philp and Co., which under contract provides a service from Sydney, Brisbane and Cairns to Port Moresby, Samarai and Rabaul. Practically all the trade is with Australia, and at present consists mainly in the export of copra.

Another dependency of the Commonwealth is Norfolk Island, 930 miles from Sydney and about 400 miles from New Zealand. It is important because the "all-red" cable from Great Britain via Vancouver, Fanning Island and Fiji passes through Norfolk Island, and there separates into two lines, one to New Zealand and the other to Brisbane.

Norfolk Island

NEW ZEALAND

The islands of New Zealand which are the most isolated of all the British Dominions lie at the terminus of our chief sea routes in the southern Pacific. The nearest land of importance in the vicinity, is the continent of Australia, over 1,000 miles distant, or almost as far as London is from Belgrade. In other directions lie the empty southern Pacific and the frozen lands of the Antarctic. Commercial progress is therefore closely concerned with the progress of Australia, and depends

to a great extent on the speeding up of means of communication. The opening of the Panama Canal, bringing New Zealand ports closer to Great Britain and New York, and the regular Canadian Pacific steamship route from Vancouver to Auckland, have helped in this direction, but the country, in spite of its favourable climate and fertile soil, is still handicapped by its comparative isolation from the great trade routes of the world.

*Physical
Features of
New
Zealand*

New Zealand, like the British Islands, consists of two large and a number of smaller islands. The two largest are the North Island and the South Island, separated from each other by the Cook Strait, which facilitates communications that otherwise would be difficult. The South Island is separated from the third and minor partner, Stewart Island, by Foveaux Strait. Other possessions included in the Dominion are the Auckland, Campbell, Chatham, Antipodes, Bounty and Kermadec Islands, and the mandated territory of Western Samoa. The North and South Islands are extremely mountainous, the trend of the highlands running from north-east to south-west, and the coastal plains form a very small percentage of the total land area. The most important of these plains are the Canterbury Plains, round Christchurch, and the plains round Dunedin and Port Chalmers. The great valley following the line of rivers and lakes from Auckland to Wellington through the centre of the North Island should also be noticed, as it forms the chief route of land communications in that island.

Climate

New Zealand like Great Britain lies in the west wind belt, called in the southern hemisphere "the roaring forties." The wind is warmed by southern equatorial currents, and carries the warmth landwards, keeping the shores free from ice. When these warm moist winds rise to cross the highlands, the moisture is condensed, bringing much rain to the western side of the islands. The east is dryer, but its rainfall is greater than that of Great Britain. Owing to the latitude of the country, which is approximately the same as that of Italy, New Zealand is warmer than our own land, but the climate, owing to insularity, is always temperate. Every form of agriculture which flourishes at home can flourish there, and life perhaps produces fewer new problems for the

immigrant to solve than in the case of any of the other Dominions.

The four most important harbours and towns are as follows :

Auckland, the chief town and port of the North Island, is on the isthmus between Manukau Harbour and Hauraki Gulf. The isthmus is so narrow that the town has harbours on the east and west coast, and commands all railway traffic from the north to the south. Auckland is the base of the New Zealand Naval Squadron.

Christchurch, at the centre of the Canterbury Plains, is eight miles from the sea, and has as its port, Port Lyttelton. Routes from north and south along the plain meet here, and it is the natural depot for the important export trade in frozen mutton and dairy produce.

Dunedin, an important coal port, and manufacturing centre, has a large export trade of sheep reared in the Otago basin.

Wellington, the capital of the Dominion, lies at the southern end of North Island on Cook Strait. Other ports of importance are Gisborne, Napier and Plymouth in the North Island, and Nelson, Greymouth, and Invercargil in the South Island.

The coal supply is sufficient for requirements and a little is exported but as in the case of Australia, iron and steel are imported, chiefly from Great Britain and the United States. Oil has been prospected for, without any marked commercial success, though traces of it have been found in many localities.

New Zealand is chiefly an agricultural country and is the greatest exporter of mutton (frozen) in the British Empire, but the exports of wool and butter are both of greater value than the exports of mutton. Cheese, sheep skins, agricultural produce, tallow, phormium flax and kauri gum are also exported in large and increasing quantities.

THE DEFENCE OF AUSTRALIA AND NEW ZEALAND

The problems of defence of Australia and New Zealand are almost entirely naval. Owing to the policy of "a white Australia," the population of the Commonwealth is strikingly homogeneous, ninety-five per cent. of the people being of British stock, while in New Zealand, apart from the

Maoris, practically 100 per cent. of the people are British. Questions of internal security are therefore unlikely to arise. Further, in neither case is there a land frontier to be defended.

Naval attack might take one of two forms. It might be direct, as by raids on coastal towns and shipping in harbours or on local sea routes, or indirect, as by attacks on the communications over which the two Dominions obtain a large proportion of the manufactures which are required.

With regard to the first method of attack it may be observed that the first class naval bases of Japan are 3,000 miles from the northern coast of Australia, and over 4,000 miles from any area of industrial importance in either country. The distances from the first-class bases of other powers are also so great as to make direct attack almost inconceivable. Raids, however, if carried out would be assisted in the case of Australia by the following geographical factors :—

- (1) The concentration of almost 50 per cent. of the total population in the six capital cities, Sydney, Melbourne, Brisbane, Adelaide, Perth and Hobart.
- (2) The concentration of all the industries in the coastal region round the south-east corner of the continent.
- (3) The isolation of the northern coast line, which has no railway communication with the centres of dense population and industry in the south.
- (4) The lack of lateral communications by road and rail in the interior, and the frequent changes of gauge which would hamper the movement of personnel and supplies for the defending land forces.

Indirect attack on the lines of communication between Australia or New Zealand and Great Britain and other British lands would, however, be more feasible. Though self supporting in food supplies these Dominions are dependent on external sources for most of the products of industry and for essential supplies of petroleum and other vital raw materials. The breakdown of British naval power in the Indian Ocean would therefore place them in a perilous position. Hence, their naval defence must depend on the security of the Mediterranean and Cape routes, and on preventing any first-class

naval power from being able to establish bases or attack shipping in or near the Indian Ocean. Local protection can therefore be best assured by measures which are more than local.

With a view to this possibility, Australia and New Zealand have consistently and strongly supported the construction of a first-class Imperial naval base at Singapore and the former has considered for some time the development of a secondary base at Port Darwin as a link between Sydney, the base of the Royal Australian Navy, and Singapore, while New Zealand has expanded the facilities of the naval base at Auckland, so that it could meet any needs which might arise.

NOTES ON POSSESSIONS IN THE PACIFIC

Nauru or Pleasant Island which was a German possession just south of the Equator, has been mandated to the British Empire. This possession is valuable on account of the quantity of rock phosphates which the island possesses, and which is estimated as amounting to 50,000,000 tons. The phosphate on the island, as well as that on Ocean Island, about 165 miles farther east, was worked prior to the war by the Pacific Phosphate Company, but in 1919 the company's interests were bought by the British, Commonwealth and New Zealand Governments for £3,500,000, the purchase price being contributed in the proportion 42 : 42 : 16 on the understanding that the three countries should receive the output in these proportions. There is an important long range wireless station at Nauru, built by the Germans.

Name.	Including :	Capital.	Exports.	Remarks.
Fiji Is.	... Viti Levu ... Vanua Levu Rotuma	Suva	... Sugar Copra	... Suva in regular communication by sea with New Zealand, Canada and Great Britain. Wireless station at Suva and on other islands.
Tonga or Friendly Islands	... ..	Nukualofa	Copra	... Wireless station at Nukualofa.
Gilbert and Ellice Islands	Union Group Ellice Group Fanning I. Washington I. Ocean I. Christmas I. Gilbert I.	...	Copra Phosphates	... Important cable station at Fanning Island. Wireless station on Ocean Island.
British Solomon Islands	... ..	...	Copra Rubber	...

Name.	Including :	Capital.	Exports.	Remarks.
New Hebrides	...	...	Maize Copra Coffee Cotton	Governed under the Anglo-French Convention of 1906, by a condominium of France and Great Britain.
Nauru			Phosphates	

THE DEFENCE FORCES OF AUSTRALIA

The policy of Australia with regard to defence is to make the country self-supporting both from a military and naval point of view. All forces are controlled by the Ministry of Defence, which is assisted by a Military Board similar to the Army Council at home, a Navy Board and an Air Force Board, of which the president in each case is the Minister for Defence. In addition, to co-ordinate the various arms and to deal with policy, there is a Council of Defence, consisting of representatives of the Ministry and the various arms. Of this Council the Prime Minister is *ex officio* the president.

THE MILITARY FORCES

The system of compulsory and universal training, constituted under the various Defence Acts of 1903-18, and embodied in the maintenance of a Permanent Force and a Citizen Force, is now under consideration, and a new system of voluntary service is likely to take its place.

The Permanent Force

The Permanent Force corresponds in some degree to the Permanent Staff of the Territorial Force at home. It is organised to carry out administrative and instructional duties in connection with the Citizen Force, and to garrison important fortifications or form the nucleus of technical services. Permanent units (Field and Garrison Artillery and Engineers) retain their identity, but at the same time are so organized as to carry out instructional work.

The officers of the Permanent Force are known as the "Staff Corps." Warrant and N.C.O. instructors have been organized as the "Instructional Corps." The period of enlistment in the Permanent Force is five years, with re-engagement for periods of three years. Officers, except graduates of Duntroon Military College, who must serve for ten years, or buy their discharge, can resign at any time by giving three months' notice.

The Permanent Forces train throughout the year like units of the Regular Army at home.

School

The Royal Military College, Duntroon.—This college was established at Duntroon in the Federal Territory to educate candidates for commissions in all arms of the Commonwealth military forces. A normal course lasts four years, after which the cadet is commissioned into the Staff Corps. The usual procedure is for him then to be sent abroad to England or India for further training with a regular regiment, but this is not being carried out at present owing to the necessity for economy.

AIR FORCE

The Australian Air Force consists of a small permanent force and a citizen force controlled by the Air Council under the Ministry of Defence. The development of Civil Aviation has been strenuously urged and a number of very important air lines are in regular operations (see page 132), giving much needed communications on the west coast and in the interior of Queensland.

THE NAVY

The Royal Australian Navy is controlled under the Ministry of Defence by a Naval Board consisting of the Minister of Defence, two naval members and a finance member.

The supply of officers is maintained by the Royal Australian Naval College. After the completion of a course in this institution, midshipmen are drafted to the Royal Navy for two years. Constant liaison between the R.N. and R.A.N. is obtained by a frequent interchange of officers.

The defended ports are as follows :—

1. *Sydney*—the headquarters and base of the Royal Australian Navy, with dockyards, victualling yards, etc. The fortifications extend as far as Botany Bay to the South.

2. *Melbourne*—which is fortified at Queen's Cliff at the entrance to Port Philip. There is a mine depot at Pt. Philip and a submarine depot at Geelong.

3. *Albany*—defended fuelling station.

4. *Brisbane* " " "

5. *Hobart* " " "

6. *Adelaide* " " "

7. *Thursday Island*—a defended fuelling station in Torres Strait, situated at a point where the Great Barrier Reef narrows into the Prince of Wales' Channel in Torres Strait, forming a bottle-neck 10 miles long by one mile wide, a little to the north of Thursday Island.

THE MILITARY FORCES OF NEW ZEALAND

The military forces of New Zealand constituted under the Defence Acts of 1909-1920, consist of a small Permanent Force and a Territorial Force.

All male inhabitants between the ages of 17 and 55, with certain exceptions, who are British subjects and have resided in the country for six months, are liable to serve in the Militia. At 14 all boys are required to register, and between 14 and 18 they are trained as senior cadets. At 18 they pass into the Territorial Force or else to the Reserve. The Territorial Force by law cannot exceed 30,000 men, and is liable for service in New Zealand only, but individual members may volunteer for service abroad. In time of war and when being exercised, its members are subject to the Army Act. *The Territorial Force*

The Permanent Force is similar to the Permanent Active Militia in Canada, and carries out the administrative and instructional work of the Territorial Force, and is responsible also for the care and maintenance of the defence works. Enlistment is for five years, but re-engagements may be made up to 55 years of age. *The Permanent Force*

The Reserve is composed of those between 19-30 years of age who for various reasons are not serving in the Territorial Force. Officers and non-commissioned officers of the reserve carry out a compulsory seven days' refresher course in camp every third year. The men do no training. *The Reserve*

All raw materials for explosives, etc., are obtained from England, as well as small arms, field guns and other armaments. Small arms' ammunition is manufactured by the Colonial Ammunition Company under contract with the Defence Department. *Arsenals*

The total strength of the military forces of the Dominion is about 30,000, but a better measure of the effective strength possible in case of war is given by the figures for the New Zealand Expeditionary Force, viz., 120,000.

THE NEW ZEALAND NAVY

The Naval Defence Act of 1920 provided for the establishment of a New Zealand Naval Force, to be raised and maintained by New Zealand, but in time of war to be at the disposal of the British Government. The complete force is controlled by a Naval Board, and consists at present of one training ship and two light cruisers.

New Zealand was a subscriber towards the cost of the Singapore base. A home base is being developed, at present at Auckland, for refitting and storing, and provision has been made for reserves of oil. Westport coal can be used for naval purposes.

AIR FORCE

A New Zealand Permanent Air Force has recently been formed as a unit of the New Zealand Permanent Military Forces, and a Territorial Air Force as a branch of the Territorial Military Force. The latter consists of officers and men who have had previous experience in the Air Forces of Great Britain or the Dominions. Aerodromes have been established at Christchurch (training centre) and Auckland.

CHAPTER XII

THE UNION OF SOUTH AFRICA

A BRIEF SKETCH OF ITS GEOGRAPHY

THE Union of South Africa consists of the Cape of Good Hope province, Natal, the Orange Free State and the Transvaal, with a total area of 472,000 square miles.

The chief physical features of the country are :—

- (1) A coastal region, rising gradually to an upland country.
- (2) An interior tableland (veldt) 3,000–6,000 ft. above sea level, flat or undulating, and only broken here and there by solitary rounded hills (kopjes).
- (3) An escarpment which marks the transition, sometimes gradual, but generally abrupt, between the coastal region and the veldt.

The coastal region is narrow on the east and west coasts, and consists of a terraced country or a gradual slope running up to the escarpment at which the great plateau commences. In the south it is separated from the escarpment by long parallel ranges of mountains, with flat country between.

*General
Geographical
Features*

The escarpment commences near the Tropic of Capricorn in the north-east, and runs parallel to the coast. As it passes southward it is marked by the Drakensberg mountains which gradually become more precipitous until they rise to a height of over 10,000 ft. in Natal. From the south-west end of the Drakensberg it takes a westerly course, and runs along ranges of mountains such as the Stormberg, the Sneeuwberg, the Nieuwveld, and the Kornberg, where for a time it becomes merged in the parallel ranges north of Cape Town. From this district it turns north, maintaining a height of 3,000–5,000 ft. broken occasionally by the valleys of the Orange

River and its tributaries, and finally reappears as a definite escarpment again in South-West Africa.

The interior plateau or veldt has an average altitude of 3,000 ft. As the eastern edge of the escarpment is from 6,000–10,000 ft. above sea level, and the western edge only 3,000–5,000 ft. the general tendency is for the veldt to slope down gradually from east to west. This explains the course of the Orange River and its tributaries, the Caledon and Vaal which rise in the Drakensberg, comparatively near the eastern coast, but flow across the plateau to the Atlantic.

Climate—

(a) *Temperature*

The eastern and southern coasts of South Africa being warmed by the Mozambique current, never have a low temperature; the west coast being cooled by the cold Atlantic currents, is never very warm. The central plateau, on account of its height and remoteness from the sea, is subject to marked variations in winter and summer.

(b) *Rainfall*

South Africa lies in the region of the South-East Trades which blow across the warm currents of the Indian Ocean collecting moisture. When these winds rise to cross the eastern escarpment, the moisture is condensed, causing regular rainfall, and giving rise to short rapid rivers, such as the Tugela, which run down from the escarpment over the narrow coastal region to the Indian Ocean. Beyond this escarpment the rainfall gradually diminishes as the moisture is removed from the air, until it falls to 5–10 inches in the neighbourhood of the Kalahari Desert, and to less than 5 inches at the north-western corner of Cape Colony. The south-western corner of the country, however, lies in the region of the winter storm winds blowing from the Atlantic, and Cape Town, and the region immediately around it, is subject to considerable rainfall in the winter months.

Resources :

Agricultural

The coastal region, with moderate rainfall, produces wheat, maize, sugar, tea, and Mediterranean fruits. Further inland from the south, the Karroos—which are plateaux between the southern ranges of Cape Colony and the escarpment, and which lie from 2,500–4,000 ft. (4,000 ft. in the case of the Great Karroo) above sea level—have a rainfall of 10–15 inches; the ground is fertile, but, owing to summer drought, large areas are burnt to a desert in the hot months, and are only suitable for sheep pasture, goats, and ostrich farming.

Beyond the escarpment, lies the high veldt, the most extensive region in the country. Here the rainfall varies from 35 inches at the eastern side to less than 5 inches at the edge of the Kalahari Desert. The rain comes mainly in the summer, and growth is then luxuriant; in the winter, only coarse grasses can thrive, growing in tufts and showing the bare earth between. This is not due to lack of fertility in the ground, but to the absence of water which makes agriculture practically impossible without elaborate measures for irrigation. Sheep and stock farming are therefore the chief resources of this region, apart from minerals. As might be expected, the main agricultural products produced in South Africa are the following, in order of importance:—wool; maize; hides and skins; Angora hair (from the Angora goat); bark and ostrich feathers. Wheat and maize are being cultivated very extensively and there is a considerable surplus; and various projects have gradually enlarged the territory available for agriculture, but the country is not fully developed in this respect.

The coal measures of the Transvaal and Natal extend over *Minerals—* a wide area, but the productive parts of this area are comparatively limited in extent. The most important fields worked are the Witbank field in the Transvaal and the Natal coalfields, both of which produce supplies of excellent quality. The proximity of Durban to these fields has made this port the most important coaling station and harbour in South Africa, and most of the surplus coal is used for bunkering ships, either at Durban or Cape Town.

Iron ore is found in small quantities, but not worked to any extent, and all the iron and steel required is imported from Great Britain. Copper and tin are produced, but in decreasing amounts, and are not found in sufficient quantities to admit of export.

The Transvaal is the chief gold producing region in the world, exporting gold to the value of over 40 million pounds each year. The important fields are the Witwaters-Rand round Johannesburg, Pilgrim's Rest and Barberton.

The diamond fields are in Griqualand West, Kimberley, and in a region east of Pretoria.

COMMUNICATIONS

(1) *Harbours* The regularity of the sea coast of South Africa is one of its noticeable features. It is broken by few inlets and on the east and west consists of sand and sand dunes ; and on the south generally of precipitous cliffs. The only harbours of importance in the whole region are Walvis Bay (South-West Africa), Cape Town, Simon's Town, Mossel Bay, Port Elizabeth, East London and Durban.

Walvis Bay : The importance of Walvis Bay was mainly strategic when the Germans occupied German South-West Africa. Its commercial importance lies in its position at the apex of a triangle of comparatively fertile country, occupying the centre of the arid regions north of the Orange River. A projected air mail route from Walvis Bay to Johannesburg and Durban will, if successful, greatly increase the importance of this harbour which would then be a port of call for the vessels carrying mails from England.

Cape Town (6181 miles from London), is the first port of call in South Africa used by all vessels trading between Europe or America and Australia. In addition to the revictualing of ships, coal bunkering is one of its important functions, the coal being brought round the coast from the neighbouring province of Natal.

Simon's Town, on the sheltered bay in the north-west angle of False Bay, is the naval base and dockyard of the Imperial Fleet in these waters. The docks consist of a tidal deep water and graving dock, together with all equipment for repairing and refitting. They are not available for commercial purposes, and are controlled and defended by the Union of South Africa.

Mossel Bay, 242 miles from Cape Town, is the first port of call, after leaving the Cape, for steamers engaged in South African trade. It consists of an open but fairly sheltered roadstead, with a small tidal dock, at which lighters can be loaded or discharged. All cargo is transferred by these lighters to and from the steamers which lie in the roadstead.

Port Elizabeth, on Algoa Bay, 423 miles from Cape Town, is an even more exposed roadstead, and all cargo is handled by lighter.

East London lies at the mouth of the Buffalo River, 131 miles from Port Elizabeth and 559 miles from Cape Town.

Durban or Port Natal, 253 miles from East London and 812 miles from Cape Town, is the most important port both in volume of trade and in facilities; it lies on a land-locked lagoon, with an entrance which has been cleared of sand and is now practicable at all tides for the largest ships trading in the southern hemisphere. There is deep water along the quays, the accommodation being sufficient for any but the largest battleships.

The South African railways are with a few exceptions (2) *Railways* Government owned and managed. Their normal gauge is 3 ft. 6 ins. and the lines run from some of the ports already enumerated to the interior.

(1) The Western, which starts from Cape Town, runs across the Gt. Karroo, through the Nieuwveld Range and up the escarpment at Hex River Pass. It crosses the Orange River near Hopetown, and then passes through Belmont and via the Modder River to Kimberley. From there it turns across the Vaal and on, via Vryburg, Mafeking and the Bechuanaland Protectorate into Southern Rhodesia to Bulawayo. At Bulawayo the main line turns north-west to meet the Zambezi at Victoria Falls, near Livingstone, and then north through Broken Hill, across the Congo boundary to its railhead at Bukamo. From Bulawayo an important branch runs in a north-easterly direction through Salisbury and Umtali to the coast at Beira in Portuguese East Africa.

(2) From Port Elizabeth and East London run the lines which unite at Springfontein in the Orange Free State, and from there on form the main artery which passes through Bloemfontein and Pretoria, crossing the Vaal at Vereeniging.

(3) From Durban a main line runs through Ladysmith, Glencoe, Newcastle, and then across the Drakensberg mountains to join (2) just south of Johannesburg.

(4) From the junction at Ladysmith a line crosses the Drakensberg by Van Reenan's Pass, through Bethlehem to the main line from Bloemfontein to Pretoria.

(5) An important line from Lorenzo Marques in Portuguese East Africa, to Pretoria, should also be noted. Though it commences at a foreign port, it forms the most direct route to the Transvaal from the Indian Ocean.

The rivers of South Africa are not navigable. The physical (3) *Rivers* features and climate of the country cause those which run west to be sluggish and reduced almost to a series of pools in dry weather, while those running down the narrow coastal region on the east are generally too short and rapid to be of value for navigation. The most important are the Orange River, rising in the Drakensberg, and forming the northern

boundary of the Cape Province, with its tributaries the Caledon and the Vaal—the latter separating the Transvaal from the Orange Free State, and having as one of its tributaries the Modder River. The Tugela also rises in the Drakensberg but flows east through Colenso to the coast. The Limpopo curves round the northern frontier of the Transvaal and finds its way into the sea north of Delagoa Bay.

SOUTH AFRICAN PROBLEMS

The defence of South Africa must be considered from two aspects ; first, its position relative to Imperial communications and, second, its problems of internal security.

The Imperial Aspect

The Union of South Africa forms one of the vertices of the Imperial triangle in the Indian Ocean, the other two vertices being India and Australia. Any loss of security in it would make our position throughout the Indian Ocean less secure and Cape Town, Simon's Town and Durban, three essential harbours on the route to the East, vital if the Mediterranean were closed, would be endangered. The distance of these ports from the naval bases of other Powers makes any attack on them unlikely except in the case of a general breakdown of British naval power in the Atlantic or Indian Ocean. Internal security is a more obvious problem, in view of the mixed population which inhabits the Union.

Internal Security

The chief groups of population were as follows at the census taken in 1926 :—

Dutch	900,000
British	800,000
Native Africans	5,300,000
British Indians	160,000

The Dutch

The Dutch section, consisting of more than half the whole white population have memories of an independence lasting for a century, and stoutly and skilfully maintained. Nevertheless, having become part of the British Commonwealth in 1901, they gave a loyal support to the Empire during the war, and South African forces fought in German East and South West Africa. After the war a tendency towards the growth of separatist ideas was noticeable and, for a time, was crystallised in the controversy about the adoption of the Union Jack

as part of the new flag of the Dominion which was being designed. The Imperial Conference of 1926, however, did much to dispel the feeling that the British Government desired to retain some residuary powers of control which would limit the practical independence of Dominions, and it was realised that Dominion Status henceforward gave independence in self government with the added security of a great combination of free nations. Further, any tendency towards internal differences between the inhabitants of Dutch and British stock has been lessened in the general effort to solve a problem of the utmost importance to all the whites in South Africa.

This problem relates to the future of the Native or Kaffir population which at present outnumbers the whites by 4 to 1, a discrepancy which is not likely to decrease. Although the whites are now increasing at a slightly higher rate than the blacks, the spread of education and knowledge of hygiene and sanitation among the natives is likely to produce a decline in their death rate which will prevent a decrease in their present superiority of numbers. Further, the inevitable spread of education is tending also to develop the native African into workmen sufficiently skilled for the industries of South Africa and is even leading to the formation of a Kaffir middle class.

*The Native
Problem*

Two serious issues arise from this preponderance of black population and its gradual advancement in knowledge. The first, an economic issue, is the replacement of white labour by coloured labour in many fields of activity. Manual work, practically speaking, is no longer done by the white and he has become almost entirely a supervisor or organiser. This is due to the fact that the entry of coloured artisans into the various trades means that wages fall to the coloured standard, and the white man must either work for a wage on which he cannot live up to a European standard, viz., he must become a "poor white," or else he must be unemployed and become a poorer one. Consequently, as the Kaffir becomes better educated and enters trade after trade his white competitors must withdraw or "reduce their standard of living to a level which would lead to ultimate demoralisation." The white population, therefore, tends to become an "overseer class," limited in numbers and opportunities, and immigration declines till

the balance of immigrants over emigrants dwindles to nothing. The inevitable result of this condition of affairs would appear to be that South Africa, in spite of a temperate climate, cooled by sea winds and a great interior plateau—conditions favourable to the growth of a vigorous white people—is likely to have a future preponderance of native and coloured people greater even than at present.

The second issue is political. The increase in education among the natives must tend to produce a desire for political representation, particularly when they have reached a stage at which they provide not merely the manual labour but most of the semi-skilled and even skilled labour of the country. Already, in Cape Colony, the natives have the franchise, and the only discrimination against them is a restriction on the sale of alcoholic liquor or firearms to or by them. But, in Natal, the Transvaal and the Orange Free State, they have no vote. It is difficult to believe that with the spread of education this can continue to be the case. Yet, on the other hand, if the overwhelming majority of natives at some future date receive the franchise the political power must pass to them for ever, the white residents will not be able to protect their own interests, and the maintenance of South Africa as a European Dominion can hardly be assured. The only method by which it can automatically be protected is a condition of affairs in which South Africa "remains the home of a large and efficient white population engaged as artisans, smallholders, agricultural labourers, etc., paid wages sufficient to secure them appropriate standards of life."

Two solutions to these pressing South African problems have been suggested. The first is the segregation of the South African native to specified areas in the Union; the second is the reservation of certain trades to the white man. With regard to the method of segregation it may be urged that it is already applied in large areas. Whites are excluded from residence in Basutoland, which is reserved for native settlement only, and large parts of the Transkei Territory in the north-east of Cape Colony are similarly reserved. Various extensions of this method, by which the greater part of Natal, Zululand, Swaziland, and Basutoland, together with the Transkei territories would be a native reserve, in which all

natives must live, and where they could develop their own self-governing institutions, have been advocated. Though difficult to initiate, they might be successful in course of time, and would open the way to the formation in South Africa of a federation of states, some coloured and some white, while they would prevent the intense economic and political rivalry between whites and blacks which, otherwise, would appear to be approaching.

The other solution suggested is less drastic. It is the restriction of certain occupations and trades in the highlands and western districts of South Africa to white labour with similar restrictions in favour of native labour in other areas. Such a method could be gradually enforced trade by trade so as to effect the minimum dislocation in industry and it would secure a firm position for white labour, while avoiding the difficulties inherent in the first method of moving large blocks of population from one part of the country to another. But though it might solve the economic problems, it is difficult to see how it would affect the main problem of the franchise in the future.

While these problems are regarded as serious in the extreme, there is no unanimity with regard to their solution in South Africa. To the mining corporation or employer of labour segregation would mean the removal of the almost inexhaustible supply of cheap labour now available; restriction of employment by trades would mean a rise in wages and costs owing to the employment of more whites. To some of the Dutch, religion and politics combine to present the native as a lower being unfit for the privileges accorded to him and unworthy of political rights at any time. But recent events suggest that all sections of the white population are now realising that the problem is becoming increasingly urgent and that some method must be adopted which will ensure South Africa as a home for the white race in the future.

The Indian in South Africa provides another problem. *The Indian in South Africa*
Though the connection of Indian merchants with ports in East Africa has been maintained for several centuries no emigration took place until 1860 when Indian labourers were brought to Natal to work on sugar plantations there. In 1870 there were only 6,500 Indians in South Africa; to-day

there are 160,000, most of whom are the second or third generation of immigrants from India. Living on a lower scale of life than the European, they are able, as small traders and artisans to undersell the European. With their growth in wealth they have become increasingly desirous of full political rights and conscious of any attempt to differentiate between them and Europeans. An attempt, for instance, in 1925, to restrict them to certain areas in each town on the grounds that they did not conform to European standards of living and that their mode of life was insanitary provoked much feeling among them and was upheld by certain sections in India as an illustration of the worthlessness, to coloured races, of British citizenship. The Bill which had been proposed (The Areas Reservation Bill) was withdrawn in 1926, and a conference of Indian and South African representatives was held in Cape Town (December 1926). Later, a travelling commission of Indians visited South Africa and a South African Commission visited India; and as a result of these measures a special Indian agent was appointed in South Africa, at the request of the Union, by the Government of India. A compromise was arranged by which those Indians in South Africa who are not willing to live up to a western standard can be repatriated (if such a word can be applied to a second or third generation) free of cost to India. For the remainder, no reservation schemes have been applied, and their desires for full political and economic privileges are under consideration.

*Mohammed-
anism and
Commun-
ism*

Two further currents are of importance in these problems. The spread of Mohammedanism among the native races of Africa is perhaps the most significant feature of the African world of to-day. It has converts even south of the Zambesi, and is gradually spreading both southwards and westwards. A more immediate problem is, however, the alleged growth of Communistic doctrines, among the native and Indian populations of South Africa, against which several bills have been proposed in the Union Parliament.

THE DEFENCE FORCES OF SOUTH AFRICA

The defence forces of the Union of South Africa are constituted under the South African Defence Act of 1912, as amended in 1922, and are administered by a Department of Defence. They consist of:—

- (a) The Permanent Force.
- (b) The Coast Garrison Force.
- (c) The Citizen Force.
- (d) The Royal Naval Volunteer Reserve.
- (e) Any special reserve established under the Act.

By its provisions every citizen between his 17th and 60th year is liable for personal service in time of war, in any part of South Africa for the defence of the Union. He is liable to undergo a course of peace training in the Citizen Force for four years, beginning in his 21st year, but may volunteer to begin instead at any time between his 17th and 21st years. Under ordinary circumstances not more than 50 per cent. of those liable for training will be taken.

Those not required for the Citizen Force must serve as members of a rifle association for four years.

The South African Air Force is administered by the Air Section at Defence Headquarters, under a Director of Air Services. It consists of a headquarters; 1 squadron; a flying school; and an aircraft depot near Pretoria, and as nearly 100 landing grounds have been prepared throughout the Union, a gradual development is foreshadowed.

The South African Police were constituted under the Police Act of 1912. They serve under the command of a Commissioner, and may be employed in case of war or emergency, to assist in the defence of the Union in any part of South Africa. They therefore combine the duties of police with military duties. Their period of service is three years, which can be renewed for two-yearly terms.

The Union of South Africa has up to the present paid a subsidy to the Imperial Navy, but the Amending Act of 1922 provides for the nucleus of a small naval service for coastal defence, thus following the line of Australia and Canada. It is also responsible for the defence of the Naval Dockyard at Simon's Town.

CHAPTER XIII

BRITISH POSSESSIONS IN EAST AND WEST AFRICA

*General
description
of African
Continent*

THE continent of Africa is remarkable for the regularity of its features and the smallness of its coastline in proportion to its area. It has less variation of relief than any other continent and thus, with the notable exception of the Sahara, there are few natural barriers to hinder the movement and mixture of races ; but the singularly regular coastline with its paucity of peninsulas and harbours has at the same time retarded the development of the country.

Its general appearance is that of a plateau highest in the south and east, lowest in the west and north, separated from a coastal plain of varying width by an escarpment sometimes abrupt enough to be called a line of cliffs or mountains, sometimes more rolling and gradual. The descent from this plateau can be seen by following the courses of the great rivers. The Nile, the Zambezi, the Congo and the Niger each pass over great falls or run down many cataracts before they reach the sea. The east to west slope is illustrated by the Congo and the Orange River which rise nearer the east coast and yet flow towards the Atlantic ; while the south to north slope is illustrated by the Nile.

Another singular and important feature of the plateau is the great fracture which extends from Lake Nyasa northwards through Lake Rudolf and is continued in the valleys of the Red Sea, the Dead Sea and the Jordan. This "great rift valley," 6,000 miles long or about one quarter of the earth's circumference, has a western branch which runs from Lake Nyasa through Lake Tanganyika, Albert Nyanza and Edward Nyanza. On the eastern sides of these two clefts the plateau has been raised by some convulsion of nature, and here we find regions of 5,000-10,000 feet altitude and isolated volcanic hills running up to 19,000 feet.

Tropical Africa can be divided, broadly speaking, into three types of regions :

- (A) The coastal plains which in the equatorial regions are marked by very heavy rains (60-80 inches), and great temperature. Great forests flourish from which can be obtained rice, nuts and vegetable oils.
- (B) The inland plateau (3,000 feet).
- (C) The high plateaux of Kenya Colony and Tanganyika Territory.

So valuable are each of these regions, A for the production of vegetable oils, rice, rubber, and nuts, and B and C for prospective supplies of cotton, of stock, cereals, tea, coffee and tobacco, that the nineteenth century saw the gradual absorption or control of the whole continent, with the exception of the two small countries Abyssinia and Liberia, by European powers. The potential wealth of Central Africa was the more valuable by reason of its proximity to European industries. France therefore gradually extended her empire from the Mediterranean southwards to the Gulf of Guinea. Germany held the fertile Cameroon country in the west and Tanganyika in the east, and had dreams of driving a German lane right across Central Africa at its waist and between this lane and German South-West Africa finally engulfing the Belgian Congo. Great Britain expanded round the river mouths in the Gulf of Guinea and occupied a lane from north to south along the eastern coast only broken by Portuguese East Africa and German East Africa. A growing demand for the raw materials produced in tropical countries thus brought Africa, by the beginning of the twentieth century, into the forefront of politics. Following the war, Germany was completely ousted, and her territories transferred as mandates to Great Britain, France and Belgium.

For convenience we may classify the British Colonies and Protectorates of East and West Africa into three groups :—

- (1) The western group, viz. : Gambia, Sierra Leone, The Gold Coast and Nigeria.
- (2) The eastern group, viz. : Somaliland, Kenya Colony and Uganda, Zanzibar, Tanganyika Territory and Nyasaland.

The absorption of Africa by Europe

The British groups of East and West Africa

(3) The southern group, viz.: The Rhodesias, Swaziland, etc.

The comparative importance of the British Eastern and Western groups

Other things being equal those areas of production which are nearest to their markets have the best chance of development. Thus Nigeria, Sierra Leone and the Gold Coast, by their proximity to Great Britain, have an advantage over the much more distant colonies of the eastern group. A factor which may in time turn the scale in favour of the eastern group is the possession of high plateaux like the Uasin Gishu in the north-west of Kenya, the Maw plateau south of Nakuru, the Kilimanjaro and Usambara highlands of Tanganyika Territory. What is lacking is not a fertile country, or labour or directing enterprise, but the means of cheap transport to the coast, well fitted harbours to deal with the traffic and cheaper and faster conveyance to Great Britain. Thus, for instance, the development of an important cotton area in Nyasaland still awaits a sadly needed bridge across the Zambezi between Chindio and Muraca, and the expansion of port facilities at Beira. In the same way the full development of the white men's lands of Kenya and Tanganyika and the cotton areas of Uganda must wait on the building of railways and the further development of ports. Railway communications between Kenya Colony, Tanganyika Territory and Nyasaland are also very desirable.

Railways and motor roads in Africa

The extension of motor roads throughout tropical Africa is very noticeable. Two important illustrations are furnished by the motor road from Kumasi, the railhead in Ashanti, to Tamale the capital of the Northern Territory, and the motor road from Nairobi to Mongalla on the Nile, opened in 1924. This latter shortens the time in getting from Kenya to the Sudan, and as there is an uninterrupted steamship service from Mongalla to Khartum it completes a route by which small bodies of troops might be sent fairly rapidly across land from Mombasa to Egypt, but it is only open to traffic during the dry weather (December to April). The journey from Nairobi to Mongalla can be made by car on this route in 6 days. Such motor roads require less specialised labour, and no material except that which can be obtained locally. They are therefore cheaper to construct than the permanent way for a railroad. Further, their upkeep is less difficult and can be made a charge on neighbouring

tribes. They are not limited to slight gradients or curves, and they can take routes impossible or at least most expensive and difficult for railway construction works. They satisfy the earliest needs of a new colony, viz., the rapid movements of passengers, mails and the less bulky necessities and luxuries. And lastly they do not exclude but only precede and finally supplement the railway. Where settlements have been extended by means of motor roads, railways will surely follow to carry the bulky produce to the coast. As these railways are extended so also will more feeder roads be required, and thus the fabric of trunk and ancillary communications will gradually be built up.

The total coloured population of Africa is estimated at 120,000,000 and can be divided, on the bases of language and physical characteristics, into five important groups. *The fighting races of Africa*

- (1) The Semitic races of the Mediterranean, of whom the most notable are the Arabs, and Berbers.
- (2) The Hamites of mixed Semite and negro blood, dark skinned and with fuzzy hair ("Fuzzy-Wuzzies") e.g., the Gallas of Uganda, the Nubians of the Sudan, the Somalis, etc. These are all of good fighting stock.
- (3) The Negroes who occupy the country between the Sahara and Congo Basin. Good fighting stock is not so common, but is found in the Hausas of N. Nigeria, the Kanuri of Bornu, the Yorubas from S.W. Nigeria, and the Bamendas of the Cameroons.
- (4) The Bantu-speaking peoples, a blend of negro blood with bushmen in the south or Hamites in the north. They occupy most of the south-east of Africa and include good fighting races, like the Swahilis of the Zanzibar Coast, the Yaos of Nyasa, the Basutos and the Zulus and Matabilis.
- (5) In the south-west are the less virile and energetic Bushmen and their near blood neighbours the Hottentots who have been gradually pushed farther south by their more energetic and hard fighting neighbours on the north-east.

Most recruiting for local British forces takes place from (2), (3) and (4). Thus the King's African Rifles recruit

chiefly from the Nubians of the Sudan, the Somalis, the Swahilis of Zanzibar: the West African Frontier Force from the Hausas (Mohammedan), Fulani, Beriberi and Yorubas of Nigeria.

*Defence
Forces*

The defence of our British Colonies in Africa resolves itself at present into two parts:—

- (1) The defence of their sea communications, which is part of a general problem of the naval defence of the Empire.
- (2) Internal peace and order.

Internal peace and order are maintained in the western group chiefly by the *Royal West African Frontier Force*, and in the Eastern group by the *King's African Rifles*.

Both the R.W.A.F.F. and K.A.R. are officered by British officers appointed by the Colonial Office and seconded from their British Regiments for the purpose. They have also a backbone of seconded British N.C.O.'s. Both forces are administered under the direction of the Colonial Office and are liable for service overseas with the authority of the Secretary of State for the Colonies.

THE EASTERN AND SOUTHERN GROUP OF BRITISH COLONIES SOMALILAND PROTECTORATE

Somaliland Protectorate (capital Berbera) lies between French Somaliland on the west, and Italian Somaliland on the east, and is bounded on the south by Abyssinia. Its area is about 68,000 square miles, and it has an estimated population of 300,000. The country consists of an arid lowland near the coast, which rises in the interior to hills and plateaux, with a somewhat moister climate. The people are almost entirely nomadic, moving from one water-hole to another with their flocks and herds, according to the seasons. They are all Mohammedans.

The exports are skins, hides, gum arabic and cattle, and it is the chief source of food supply for Aden.

There are no railways. Communications are carried out by camel caravans or near the coast by motor-cars. Roads are almost non-existent, and the rough tracks which run through the country are generally suitable only for pack transport.

Camel caravans bring goods from Abyssinia to Berbera, moving at the rate of 15-25 miles a day, each Somali camel carrying from 2-3 cwt.

The defence force consists of the camel corps of 400 (which include 100 Yaos from Nyasaland), and 500 police. The only harbours of importance are Zeila and Berbera, which are fairly sheltered.

KENYA COLONY

Kenya Colony, formerly known as the East Africa Protectorate, lies between the Umba River and Italian Somaliland, and extends for 500 miles inland as far as Uganda. It has an area of 200,000 square miles, and a population of about 3,000,000, of which 12,500 are Europeans, 27,000 are Indians, and 10,000 are Arabs.

Beyond a narrow coastal plain, with lowlands running far up the river valleys, the land rises to a plateau of 5,000-7,000 ft. above sea level, and then sinks rapidly again by a series of escarpments to the eastern rift valley. Beyond the eastern rift valley lies another plateau, which in turn sinks to the "great rift valley." This valley is 30 miles wide on the average, and about 3,000 ft. below the level of the surrounding country. The more important highlands are those of the Nandi Plateau, on the western edge of the eastern rift valley, a healthy and beautiful country, 45 miles wide by 250 miles long, with an average height of 6,500 ft. above sea level. At the Laikipia escarpment the country rises to 13,000 ft., and to the same height in the Aberdare Range; while the Maw Plateau is fertile country rising to 9,000 ft.

The climate is marked by heavy rainfall on the coast, which *Climate* decreases rapidly towards the interior. On the plateaux, more than 5,000 ft. above sea level, the country is healthy and suited to European settlement, with a comparatively temperate thermometer and moderate rainfall.

As might be expected, the low-lying areas near the coast *Resources* produce tropical or semi-tropical produce, such as rice, coconuts and cotton; on the highlands, wheat, barley, maize, flax, coffee, sisal-hemp, are produced, and stock farming is increasing in importance. The mineral resources of the colony have not yet been exploited fully, but appear to be of



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Railways: ———

do. projected: - - - - -

Line claimed by Italy (Tittoni)

Line offered by G. Britain (Milner Line) - - - - -

Final Settlement: + + + + +

MAP 18. Kenya Colony and Tanganyika.

great value. Extensive forests exist which are not developed.

The chief harbour is Kilindini on the island of Mombasa, *Communications* which is the terminus of a railway running through Nairobi for 618 miles to Kisumu on Lake Victoria Nyanza (metre gauge). The trade on this route has increased so greatly of recent years that Kilindini is now in process of being further developed, and promises to be the most important port in East Africa.

Prior to 1923 all trade from Uganda was shipped to Kisumu and proceeded thence by rail to Mombasa. To avoid this uneconomic transshipment a number of new lines have been constructed recently. From Nakuru a branch now runs through Turbo, to M'bulamuti on the line in Uganda from Jinga to Namasagali. Spurs run to Kitale the centre of a white settlement and of a great maize growing country, to Kumi which taps the eastern province of Uganda—the chief cotton growing area of British East Africa—making a link with the Sudan, and to the rich Kavirondo country lying east of Victoria Nyanza. The motor road from Nairobi to Mongalla on the Nile is also important.

In the Secret Treaty of London of April 26th, 1915, regarding *Jubaland* the terms on which Italy entered the war on the side of the Allies, Great Britain and France agreed that if their colonial dominions were augmented at the expense of Germany, Italy would be entitled to receive compensation by a revision of the frontiers of her African possessions where they adjoined French or British colonies. In accordance with this arrangement, Italy obtained a small part of Tunis from France and portion of the province of Jubaland from Kenya. The chief difficulty in this settlement has been the migratory character of the Somalis who live in Jubaland. The country is arid and unfertile, and hence according to season the tribes move from place to place, and there is, under such circumstances, the danger of trouble in a country hard to police.

UGANDA PROTECTORATE

The Uganda Protectorate (capital, Kampala, administrative centre, Entebbe) has about the same area as the British Isles.

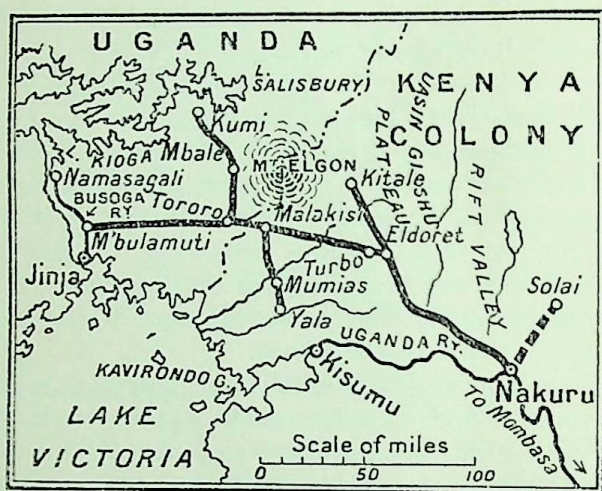
Its chief product is cotton, of which it is rapidly becoming *Resources*

an important source of supply. Coffee, para rubber, cocoa, oil seeds are also produced and timber in the portion of the country which lies in the equatorial forest belt.

Communications are carried out chiefly by the following :—

Communications

- (1) The Kenya Uganda Railway.
- (2) The Nile steamers which run from Khartum to Rejaf.
- (3) A steamer service between Kisumu and Entebbe and the other principal ports on Lake Victoria.



MAP 19. Uganda Railway Extensions.

There is in addition a complete system of fairly good roads, which are used by Government motor vans.

TANGANYIKA TERRITORY

Tanganyika Territory was the largest and most valuable of all Germany's possessions in Africa. It has an area of 365,000 square miles and an estimated native population of 4,500,000. In addition, there are about 10,000 Indians and about 5,000 whites.

It consists of a coastal strip 10-30 miles in width, fever-infested, and with a heavy rainfall and poor drainage. Beyond this lies an interior tableland where the natural vegetation is grass or scrub, and the plantation crops produced are sisal-hemp and rubber. To the north, the interior tableland rises

towards the slopes of Kilimanjaro and the Usambara Highlands, where the altitude is over 5,000 ft. and the climate temperate enough to make these districts a "white man's country."

In 1914, it was bounded on the north by British East Africa and Uganda; on the west by the Belgian Congo; and on the south by Northern Rhodesia, Nyasaland and Portuguese East Africa. It thus formed a barrier separating British equatorial Africa from the British possessions in the south, and was the one gap in the red corridor running from the Cape to Cairo. Further, it shut off the Belgian Congo from access to the Indian Ocean. By the Treaty of Versailles, the mandate for most of this German colony was given to Great Britain. The portion excepted from this mandate was a quadrilateral of land in the north-west, lying between the north end of Lake Tanganyika and Lake Kivu on the west, and Victoria Nyanza on the east. This tract of country, including the rich provinces of Ruanda and Urundi—probably the most densely populated and fertile part of German East Africa—was claimed by the Belgians as forming a natural part of the Congo, and in the settlement was mandated to Belgium, to be administered as part of the Belgian Congo. Belgium also received the following concessions from Great Britain:—(a) A free outlet for produce from the Congo, via Lake Tanganyika and the metre gauge railway running from Kigoma on the lake, through Tabora to Dar es Salaam. (b) Concession areas for the storage of goods at Kigoma and Dar es Salaam. (c) The right to transport goods in Belgian trucks to the coast.

Tanganyika Territory, includes a number of good ports, of which the most important is Dar es Salaam, whence a railway runs inland to Lake Tanganyika. There is also the railway from Tanga to Moshi near the highlands of Kilimanjaro with a connection to Voi on the Mombasa-Nairobi line built originally for military purposes. A railway has now been constructed from Tabora to Mwanza, and further projects are under consideration such as a line from Tabora into Uganda, round the western side of Lake Victoria Nyanza. In order to preserve a British corridor for this railway, a strip of territory on the east side of Ruanda was reserved to Great Britain. This line might, of course, form a section in a future Cape to Cairo Route.

*The Partition
of German
East Africa*

*The British
Portion*

PROTECTORATE OF ZANZIBAR

The island of Zanzibar is 48 miles long by 15 miles broad, and lies about 20 miles from the African coast, off Tanganyika territory. Thirty miles to the north-east of Zanzibar is the island of Pemba, which is under the same administration.

Climate and Resources

The climate is severely tropical, but healthy, with an average temperature throughout the year of 80° Fah. and a rainfall of 65 inches. The chief commodity exported is cloves, of which it exports the bulk of the world's supply.

Communications

The port of Zanzibar is one of the finest in East Africa, and is used as a coaling station by the Imperial Navy. There are Government wireless stations in Zanzibar and Pemba, and Zanzibar is connected by cable with Aden, and also by way of the Seychelles and Mauritius with Durban.

NYASALAND PROTECTORATE

The Nyasaland Protectorate (chief town Blantyre, capital and H.Q. of Govt. Zomba) lies along the southern and western shores of Lake Nyasa and extends towards the Zambezi river, having an area of 40,000 square miles. The most important portion of the country is the Shiré Highlands, which are over 3,500 ft. in height, and in which Blantyre is situated.

Resources

The main resources are tobacco, cotton, tea, sisal, coffee, rubber, and fibre, and coal on the Shiré Highlands.

Communications

As already mentioned, the development of the great natural resources of this country is retarded by two difficulties. The first is the lack of proper harbour facilities at Beira. Steps are being taken, however, at present to ameliorate this, and a new deep water berth was recently opened which allows ocean going ships to go alongside. The other is the lack of a bridge across the Zambezi which necessitates the transhipment of passengers and goods at Chindio across the river by steamer to be reloaded on the railway at Murraca, thus entailing great expense and loss of time. The construction of a bridge has been authorised, and a loan for the purpose is being made from the Colonial Development Fund. When this gap of two or three miles is bridged a rapid development of the valuable cotton and maize growing lands and coalfields of Nyasaland should follow.

RHODESIA

Rhodesia is the whole region extending from the Transvaal in the south, to the Belgian Congo and Tanganyika Territory in the north, and lying between Portuguese West Africa on the west, and Nyasaland and Portuguese East Africa on the east. It is divided by the Zambezi river into Southern and Northern Rhodesia.

By an arrangement made in 1923 Southern Rhodesia was given a generous measure of responsible self-government; and Northern Rhodesia has now the status of a Crown Colony (though it is still referred to as a Protectorate).

Southern Rhodesia (capital Salisbury) has an area of 149,000 square miles. It lies mainly on a high plateau country with a temperate climate, where agriculture and stock farming can be carried out successfully. The chief commercial centre is Bulawayo through which the main line of railway from Cape Town to the Congo passes and at which one branch runs north-west to Livingstone on the Zambezi, and thence through Northern Rhodesia to Bukama in the Katanga region of the Congo. The other branch runs north-east from Bulawayo, through Salisbury, where it turns in a south-easterly direction, and passing through Portuguese East Africa, has its terminus at Beira. *Southern Rhodesia*

The administrative centre of Northern Rhodesia is Chilinga, and the chief commercial centre Broken Hill. The country is a high plateau, mainly covered with thin scrub, but it has large areas of good arable and grazing land. *Northern Rhodesia*

The chief commodities exported are maize, cotton, tobacco, rubber, timber, gold, copper, zinc and lead.

The development of both Northern and Southern Rhodesia is retarded by their lack of communications and distance from sea ports. Various schemes to remedy these difficulties are outlined in a subsequent paragraph. There is a growing body of opinion that a confederation of the two Rhodesias would assist in this development by enabling a larger view to be taken with regard to economic facilities, reducing overhead expenses, and leading eventually to the formation of a white Dominion in this part of Africa. The chief difficulty in the way of progress towards a Dominion of Rhodesia is the smallness of the white population and the very large native popula-

tion whose interests, as the original inhabitants, must be safeguarded.

SWAZILAND

Swaziland (capital Mbabane) at the south-eastern corner of the Transvaal, is administered under the High Commissioner for South Africa. The chief resources are maize and tobacco, though the development of cotton growing is being attempted. The grazing countries of Swaziland are used each year for winter grazing for sheep brought in from the Transvaal. The mineral wealth of the country appears to be considerable, but is mainly unexploited, though alluvial tin and gold are mined to some extent. Communications are by motor, small carts or runners.

BASUTOLAND

Basutoland is a high plateau, lying to the north-east of the Cape province, and bounded by the Orange Free State, Natal and Cape province. It is a native territory governed by a Commissioner under the direction of the High Commissioner of South Africa, and has its administrative centre at Maseru.

The country is well watered, has abundant grass, a beautiful climate, and is probably the best grain country in South Africa. There are no navigable waterways, communications are by road, or by the railway 16 miles long, which connects Maseru with the Bloemfontein-Natal line.

BECHUANALAND PROTECTORATE

The Bechuanaland Protectorate (administrative centre Mafeking) extends from the Transvaal and Matabeleland on the east, to South-West Africa on the west. Much of the country is occupied by the Kalahari Desert, and the remainder is chiefly pastoral. The main line of railway from Cape Town to Rhodesia and the Belgian Congo passes through it.

SOUTH-WEST AFRICA

South-West Africa is an ex-German colony mandated to the Union of South Africa. It is chiefly a desert region, with an area of 320,000 square miles, a native population of 250,000 and a white population of not more than 15,000.

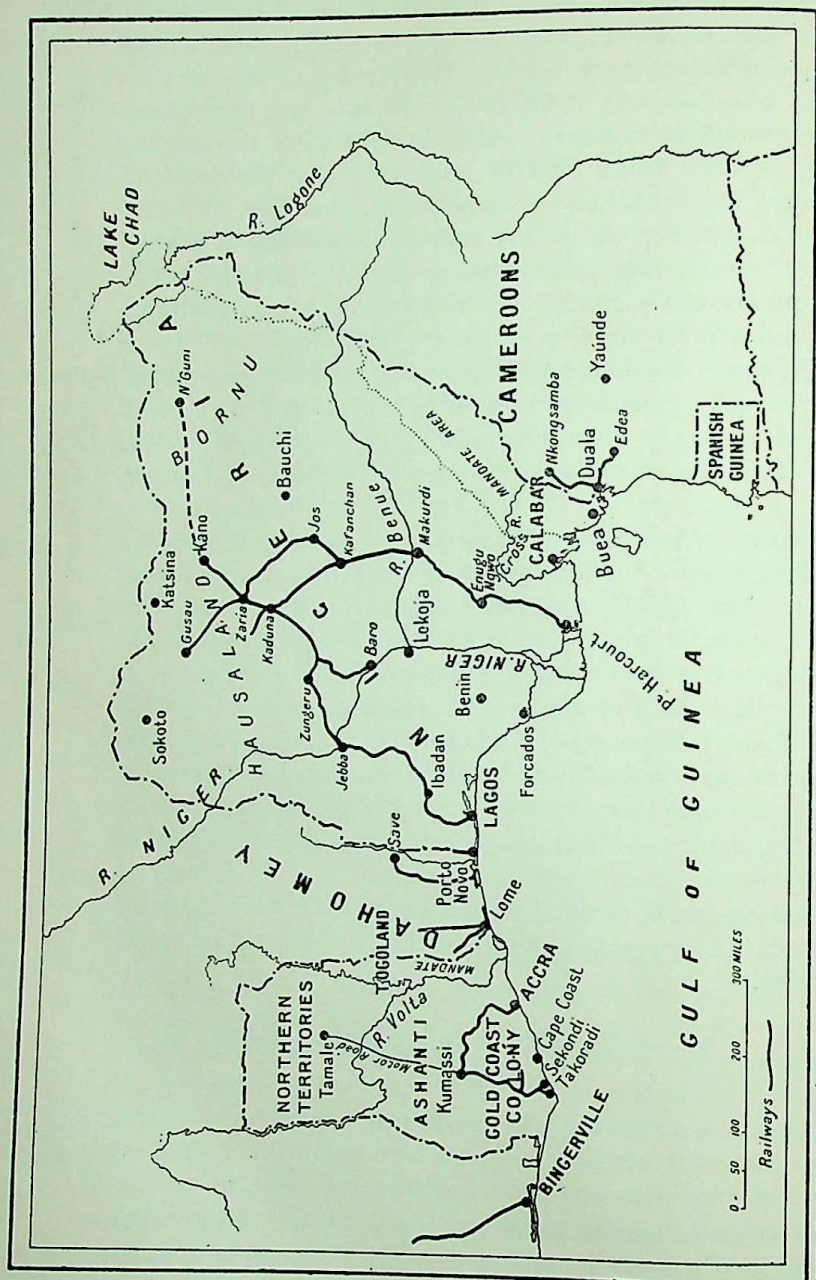
This territory consists of a coastal desert from 15-85 miles wide marked by great sand dunes, and with a rainfall of less than one inch a year. Farther inland, the rainfall increases on account of the rise in the land and consequent condensation of moisture in the air, and there are grazing lands of some value. Farther east again lies the Kalahari desert. The country is not susceptible, therefore, of much development. It has in fact been estimated that it cannot maintain more than 5,000 farms in all. The principal occupations are cattle grazing and sheep farming. In addition, diamonds, ivory and copper are exported.

The future development of this greatly handicapped country depends largely on the progress of its neighbours. At present almost all traffic from Rhodesia takes the cheapest route, viz., that which runs through Portuguese East Africa and thence by sea from Beira. If a route can be developed from Northern and Southern Rhodesia to some port such as Swakopmund in South-West Africa, the saving in distance by sea to Great Britain would be a matter of 1,800 miles, while the journey by rail would not be very greatly increased, and indeed, in the case of parts of Northern Rhodesia might even be shorter. Such a route would undoubtedly benefit Rhodesia and Great Britain by shortening and cheapening the transit of goods, and South-West Africa would greatly benefit as well. A step in this direction has been taken by the extension of the Swakopmund-Windhoek line to Gobabis, the intention being to continue it farther by degrees as new country is opened up, until eventually it reaches the Rhodesian railway system. A survey of this projected line is being carried out at present.

THE WESTERN GROUP OF BRITISH COLONIES NIGERIA

Nigeria consists of the Colony and the Protectorates of Nigeria which are the northern and southern provinces. Each of the two provinces are under Lieutenant Governors, who in turn come under the control of the Governor of the whole colony. The area is approximately 340,000 square miles, and the population about 18,500,000.

Nigeria can be divided into three geographical zones :



MAP 20. The West Coast of Africa.

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(1) The belt of low-lying land along the seaboard, consisting of swamp and impenetrable forest, varying in width from 5-60 miles. *Geographical Features, Climate and Resources*

(2) The central belt of hills, whose peaks rise in the Murchison Range to a height of 6,000 ft., and in which lies the important Bauchi plateau, 4,000 ft.

(3) Beyond the central belt there stretch northward towards the desert the fertile plains of Hausaland and Bornu in the neighbourhood of Kano and Zaria. These great rolling plains have an average height of 1,800 ft. above sea level.

The climate in the coastal region is moist, warm and unhealthy; inland, as the land increases in altitude, it becomes less humid, while on the plateaux to the north, though the temperature by day is tropical, the evenings are cool, or even cold, with occasional frosts.

The main exports are palm oil, kernels, skins, cocoa, timber, ivory and cotton. There is a region of 9,000 square miles in Northern Nigeria, and another region in Southern Nigeria, possessing rich alluvial tin. Coal also is found in the Udi region of Southern Nigeria, and a Government colliery produces coal of good quality which is railed from Enugu to Port Harcourt (151 miles). *Communications*

The principal ports are Lagos and Port Harcourt, Forcados, Calabar, Victoria (in British Cameroons), Brass, Bonny and Opobo. Lagos and Calabar possess engineering and repairing workshops and at Lagos moles have been constructed and a deep channel over the bar now exists, to admit of ocean steamers entering the harbour. Deep-water docks are also being constructed.

Nigeria is the basin of the great River Niger with its many tributaries, and it is natural that these rivers should form the chief routes for movement. The Niger itself is navigable as far as Jebba; from there on, it is shallow and broken by many rapids.

The western line of railway (gauge 3 ft. 6 ins.) runs from Lagos through Jebba, Zungeru and Zaria (the centre of the cotton district) to Kano. Branches from this line, run from Minna to Baro on the Niger, and from Zaria to the tinfields of the Bauchi hills (60 miles to the east, 2 ft. 6 in.

gauge). The eastern line runs from Port Harcourt on the Bonny Estuary to Mt. Enugu coalfields, and effects a junction with the western line at Kaduna.

There is a fortnightly mail service from Liverpool to Lagos and a monthly one to Calabar.

Races

The chief races of Nigeria are :—

- (1) The Hausas (population 3 millions) who inhabit the Hausaland Plain in the western half of the Northern Province. They are Negroid in race, Mohammedan in religion and make excellent soldiers.
- (2) The Fulanis (population 2 millions) live round and to the east of Kano. They are partly Mohammedan and partly Pagan, and are not as a rule enlisted.
- (3) The Kanuri of the North East corner near N' Guru (population 500,000) are Mohammedans and very good fighters.
- (4) The Yorubas (population 4 millions) of the western half of the Southern Provinces are good soldiers but do not enlist as much as formerly owing to increasing prosperity due to the cultivation of cocoa and other trading activities.
- (5) The Ibos (population 3 millions) live between the Niger and Cross Rivers. They are employed as carriers but are not generally enlisted.

THE CAMEROONS

In February, 1916, the British Government agreed with France to the administrative division of the Cameroons. It was arranged that, in case the question of giving this German colony to a third Power should be raised, Great Britain was to have first refusal of the port of Duala. By the Peace Treaty, France and Great Britain became mandatory Powers for the colony, the bulk of the territory coming under French control.

The Cameroons have an area of over 190,000 square miles, and an estimated population of 2,500,000. It is a typical tropical country, unhealthy in the lowlands, but with great prospects of development in the higher ground of the interior. For France, the Cameroons have a particular value, because

they lie across the direct route from the Lake Chad district to the sea. The main difficulty in its development is the lack of navigable rivers: such streams as exist are broken by rapids and falls, while roads are few.

France not only received back the territory lost by an agreement after the Morocco crisis of 1911, but also obtained a mandate for four-fifths of the whole colony, including the port of Duala, the whole of the existing railway system, and the important route which leads from the coast to the Shari river, and forms the most important outlet from the Lake Chad district. The remainder of the colony—a narrow strip on the north-west border, including the ports of Buea and Victoria—is mandated to Great Britain, and is administered by Nigeria. The boundary is in general a mountain one, running along the watershed, and giving to Nigeria the headwaters of the Cross River. This has strengthened the position of Nigeria, as the original boundary between Nigeria and the Cameroons was an arbitrary line, disturbing to native life and custom. The new line runs through a region which is lightly populated, and is unlikely to disturb local tribal arrangements.

*The Partition
of the
Cameroons*

The products of the Cameroons are mahogany, rubber, palm oil, cacao, tobacco and cotton. In the interior it has valuable grasslands, which are at present difficult of access, and there is a possibility of the development of rubber on a profitable scale.

Resources

THE GOLD COAST

The Gold Coast Colony consists of the colony itself (24,000 square miles), Ashanti (20,000 square miles) and the northern territories (36,000 square miles), and lies between the French Ivory coast on the west, and Togoland on the east.

The country possesses a coastal strip, which is low and unhealthy, having an average temperature of 78°, with great humidity. Farther inland it becomes more broken, and eventually changes into a densely wooded interior. The north-east corner of the northern territories is good arable country, and pastureland.

*Geographical
Features and
Climate*

The chief exports from the Gold Coast are cocoa, palm oil, kernels, kola, rubber and manganese. Ashanti possesses rich

Resources

forests with excellent timber (mahogany and cedar) as well as oil trees, rubber and gum copal. Maize, coco yams, bananas, ground nuts and cocoa are also produced. The northern territories, north of latitude 8°, which are more temperate in climate, produce grain, indigo and tobacco.

*Communica-
tions*

The ports are Accra and Sekondi, where surf boats have to be used, and Takoradi where a deep water harbour has been built. The Government railway runs from Takoradi on the coast to Kumasi, 168 miles (gauge 3 ft. 6 ins.) with branches to Prestea, Inchaban and Brumassee. A line also runs from Accra to Anyinam, whence it is now extended to join the Kumasi-Accra line. Some good motor roads have been built, and the road system has been vastly improved during the last few years. The most important is that from railhead at Kumasi to Tamale in the Northern Territory. Off these main lines, goods are carried chiefly by head portorage, the load carried by each porter being from 50-70 lbs.

*Administra-
tion*

The capital of the Gold Coast Colony is Accra; of Ashanti, Kumasi; and the administrative centre of the northern territories is Tamale. The Governor of the Gold Coast is also Governor of Ashanti, and the northern territories are administered by a chief Commissioner under the supervision of the Governor.

TOGOLAND

British Togoland	.. 12,500 square miles.
French Togoland	.. 21,200 square miles.

Togoland was the smallest of Germany's African colonies, and is a narrow strip of territory lying between French Dahomay on the east, and the Gold Coast on the west. It is populated by at least one million natives. The country has an unhealthy coastal strip, but the highlands of the interior are capable of agricultural development. The Germans intended to make Togoland done of the sources of cotton for their manufactures, and had also developed valuable cacao and tobacco plantations.

Togoland is roughly a quadrilateral in shape, with a sea coast of only about 31 miles, but broadening out towards the interior. The main feature is a range of hills to the east of the Volta river, and running in a north-easterly direction.

This range is highest in its south-eastern part, where it rises to over 3,000 ft. and lower and wider to the north east. The range traverses the whole country, and continues into French territory.

The Peace Conference, in dividing Togoland, gave to France approximately two-thirds of the whole area, including the sea coast with the roadstead of Lome, while the remaining one-third has been given to Great Britain, and is administered by the Government of the Gold Coast. The boundary between the French and British portions is, on the whole, a mountain line, traversing the range already described, and giving the plain of the Oti river (a tributary of the Volta) to the Gold Coast, and the coastal plain and the valley of the Mono river to Dahomey. *The Partition of Togoland*

The Germans had constructed three lines of railway diverging from Lome, one to Anecho, along the coast, and the others to Misahohe and Atakpame. All these lines, as will be seen from the sketch map, fall within the French area.

One of the serious difficulties in connection with the possible development of Togoland, is the spread of sleeping sickness in the coastal region and along the rivers.

THE COLONY AND PROTECTORATE OF SIERRA LEONE

The colony and protectorate of Sierra Leone, lying between Liberia and French Guinea, have an area of 4,000 square miles. The capital—Freetown—is the greatest seaport in West Africa, and a defended fuelling station. It is also the headquarters of His Majesty's Forces in those regions.

The climate is hot, humid and very unhealthy, the worst months in the year being from May to November. *Climate*

The chief exports are coco nuts, palm kernels, ginger and palm oil. *Resources*

There is a Government railway (2 ft. 6 ins.) from Freetown to Pendembu, near the Liberian frontier. From Boia junction, 64 miles from Freetown, a line runs to Kamabai, and further extensions to Baga are contemplated. There is also a mountain railway from Freetown to the official headquarters at Hill Station, a distance of 5½ miles. *Communications*

GAMBIA

Gambia (capital Bathurst) consists of the Colony (69 square miles) and Protectorate (4,130 square miles). It is a narrow strip along both sides of the Gambia River, with a hot and unhealthy climate, especially during the rainy season—from June to November. There are no railways. The French possession of Yarbata, at the head of the navigable part of the Gambia River has tended to decrease the importance of the trade from the interior passing through Gambia, as the natives are compelled to direct their produce from our stations to French ports.

Resources

The main resources are ground nuts, rubber, beeswax, hides and palm oil.

Bathurst is connected by cable with St. Vincent (Cape Verde) and Konakry (French) and Freetown (Sierra Leone).

THE FUTURE DEVELOPMENT OF TROPICAL AFRICA

One of the most pressing questions for the industrial States of Europe is the supply of raw materials for their industries. The United States has many of these raw materials within her own territory ; Great Britain is compelled to look for them in her tropical dependencies. Of these dependencies, the nearest are the colonies and protectorates of West Africa. Cotton, rubber, timber, nuts and palm oil are essential to the maintenance of our industrial well-being in this country, and the fertility, in this respect, of the tropical regions held by Great Britain in East and West Africa is of the greatest importance. The density of native population which exists there, as in all tropical regions where the necessities of life are easily found, makes for a good supply of labour and consequent cheapness of raw material. Moreover, apart from the needs of industries, there is the more important question of the food supplies of the future. The fertile soil, the many hours of sunlight and heavy rains, make the British regions in tropical Africa a possible food-producing region for the inhabitants of the temperate and more densely populated parts of the Empire.

The white settlements in the past have been confined to the northern or Mediterranean shore and the extreme south.

With the increasing demand for the food and raw materials produced in the tropics, this is not likely to remain the case, nor is it absolutely necessary. A striking feature of central Africa, already noticed, is the great expanse of upland with altitudes of 5,000 ft. or more, lying in the neighbourhood of the Equator, which, by its height, provides a climate temperate enough for the white man to live and work in. Most of these uplands run in an almost continuous corridor along the eastern side of the continent, gradually rising from south to north towards the Equator, and falling again in the plain of the Sudan. In the main, they follow that corridor from Cape Colony to Egypt which now consists entirely of British possessions. Their development depends to some extent on the development of railways in East Africa, and with this development may come the fulfilment of the dream of a grand trunk railway running from Cairo to Cape Town.

THE PROJECTED CAPE TO CAIRO RAILWAY

One cannot but view with a certain amount of satisfaction the map of eastern Africa as it is to-day, with its corridor of red running from the Sudan to Cape Town. The only gap which once existed in that corridor has been filled by the mandate over German East Africa (Tanganyika Territory). It is a corridor approximately 5,000 miles long, passing through undeveloped lands of great fertility, tropical forest, plateaux where the climate is almost temperate, past great lakes like Tanganyika, Victoria Nyanza, and Nyasa and possessing great navigable rivers like the Nile. Rhodes' dream of an "all red" Cape to Cairo Railway cannot, strictly speaking, materialise, because Egypt is an independent kingdom, but British interests in such an undertaking would undoubtedly be paramount.

The sketch map shows various routes by which such a trans-continental line might be completed. The complete journey from Cape Town to Cairo can be divided into three stages :

(1) From Cape Town by the main lines of railway in the Union of South Africa, through Kimberley and Mafeking or Johannesburg and Pretoria to Bulawayo, and from there to Broken Hill in Northern Rhodesia. This stage is complete.

(2) The second stage which is very incomplete at present would be from Broken Hill to the terminus of the Sudan railway at El Obeid or Sennar.

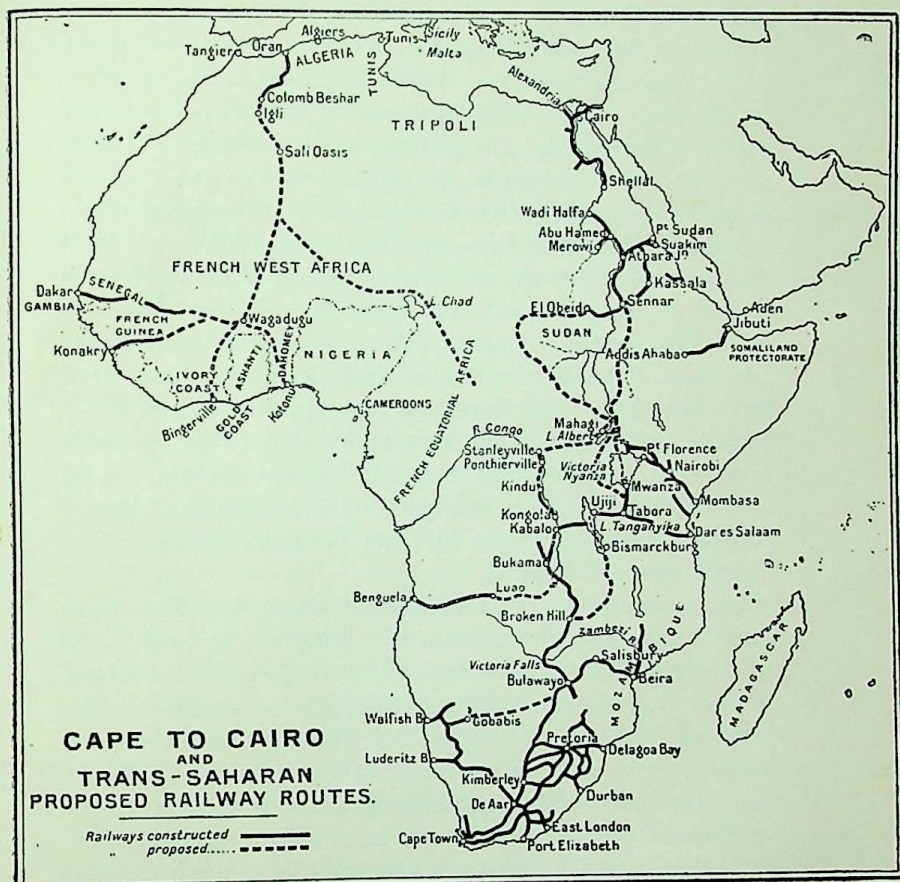
(3) The third stage from El Obeid or Sennar to Cairo or Alexandria is complete by rail and steamer.

The second stage is therefore the only part which requires to be considered, and the gap here may be bridged in the future in a number of ways, some partly through the Belgian Congo making use of the Congo River, and others through British territory only.

Of these, the most important from an Imperial aspect are those which will run entirely through British territory. One such project is that a railway should be constructed from Broken Hill in Northern Rhodesia to Bismarckburg at the Southern end of Lake Tanganyika. The journey from Bismarckburg to Ujiji could be done by steamer; from Ujiji to Tabora and Tabora to Mwanza by rail; and from Mwanza the regular steamship service on Lake Victoria Nyanza to Jinja could be used. The line from Jinja to Namasagali if extended to Rejaf would bring the traveller to a navigable part of the Nile.

Another project is the construction of a railway from Northern Rhodesia through Nyasaland to Dodoma and Arusha in Tanganyika to join up with the Kenya Uganda Railway at some point such as Voi. This line would have the advantage of running through country possessing great agricultural and mineral possibilities, and it would be a central line of communication which would help towards a process of confederation between Uganda, Kenya and Tanganyika.

To sum up, the most northerly point of the railway as it exists to-day on the line from the Cape, is in Northern Rhodesia, while the most southerly point on the line from Cairo is at Sennar. The gap between may be bridged partly by the construction of new lines and partly by the use of waterways, such as the great Lakes and the Nile. The countries through which the second stage would pass are fertile, and almost completely undeveloped. Coal supplies could be obtained from Natal and the Zambezi Valley. There are untouched coal seams in the Shiré Highlands also at the north end of Lake Nyasa and near Albertville. Water power for the future



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MAP 21.—Cape to Cairo—proposed railway routes.

electrification of the lines could be obtained in abundance from the Zambezi and other falls. Copper and other minerals exist in the south-west corner of Tanganyika, and in Rhodesia. Further, a great deal of the region passed through, though tropical in latitude, is more than 3,000 ft. above sea-level, and is therefore comparatively temperate in climate.

*General
Criticisms of
the Cape to
Cairo Route*

The completion of such routes as have been outlined above, will obviously be rather a matter of growth in the course of development of the colonies concerned than of any set plan quickly carried out. In the first place, there is no urgent need for such a line from the point of view of trade. Commerce tends to take the cheapest and not necessarily the shortest route, which from any part of the British corridor is the route to the coast, and thence by sea. The tendency in railway building in Africa—as in the case of Australia—is to build lines from the coast inland in order to tap quickly the resources of the interior. Such lines are shorter, and therefore cheaper, as well as being more quickly remunerative. Typical examples are the existing line from Beira to Salisbury; the line from Dar es Salaam through Tabora to Ujiji on Lake Tanganyika; and the line from Mombasa through Nairobi to Port Florence on Lake Victoria Nyanza, and to Uganda through Nakuru.

In the second place the saving in distance would not be so considerable as to outweigh the difference in cost. The circumstances are in no sense similar to those which rendered the building of the Canadian Pacific desirable and even imperative. In Canada, before the Panama Canal was completed, it was a choice between building a railway to British Columbia or sending commodities from that province round by Cape Horn to Europe—an immensely longer distance. Further, the justification put forward that a Cape to Cairo service would be warranted as a passenger and mail service is likely to have little weight in view of the probable rapid development of air routes for this specific purpose. It would therefore appear likely that the trans-continental railway will be a secondary consideration, gradually accomplished by the process of linking up the various lines and waterways now in existence, as the development of trade in the countries along the British corridor requires it.

It is nevertheless interesting to note what the results of such a route might be. One could look forward to a time when expresses would run on electrified railways from the Cape to Cairo in nine days; or even further, to the construction of a Channel tunnel, and a train-ferry on the Bosphorus which would make it possible to take a ticket for a through train from Charing Cross to Cape Town. Such a line of communication would be a backbone, holding more closely together the British dominions grouped along it, and Egypt would become the Clapham Junction of Asia, Africa and Europe.

The progress of railway construction in tropical Africa is retarded by the seasonal nature of the agricultural traffic; and the long periods when railways cannot earn to anything like full capacity. Hence, the development of mineral resources, giving an all year traffic, is very desirable. The various schemes of railway construction, which have been embarked on or are projected, aim therefore at tapping rich mineral as well as agricultural regions. Thus, the line, recently opened from Benguela to Luao on the borders of the Belgian Congo will eventually be extended into the centre of the great Katanga copper area of that country; and the scheme, now under consideration, for a line from Kampala in Uganda to Ruwenzori aims at tapping the rich mineral resources of the north-east Congo. Projected railways are also being considered for diminishing the isolation of the two Rhodesias which contain important copper and other mineral resources. The building of a connexion between Bulawayo and the Beit bridge on the Limpopo River would put Bulawayo in direct communication with Delagoa Bay; and an extension of the line which now runs from Walvis Bay to Gobabis, through Bechuanaland to Southern Rhodesia is also under consideration. The isolation of Nyasaland is to be diminished by the construction of a bridge across the Zambezi at Chindio, a loan for which has been authorised from the Colonial Development Fund (1929); and, in each of the territories, schemes are being considered for submission in connexion with this fund. Among these schemes one of great importance ultimately is the proposal for the construction of a railway which shall unite Kenya, Tanganyika and Nyasaland.

*General
Results of
the Cape to
Cairo Route*

*Progress of
Railway
Construction
in Tropical
Africa*

SCHEMES OF CONFEDERATION OF EAST AFRICAN COLONIES

*The Proposed
Confederation
of Kenya,
Uganda and
Tanganyika*

The lack of inter-colonial railways and the presence of restrictive tariffs at the boundaries of our African colonies have, in the opinion of many people, tended to retard the development of these regions; and the advantages of closer union, particularly in relation to railway construction, the control of ports and harbours, telegraphs and customs have therefore been strongly urged. Some form of confederation between Kenya, Uganda and Tanganyika Territory has been the chief scheme of this nature.

Unfortunately this subject is complicated by many difficulties and controversies which can only be indicated in outline.

- (1) The first difficulty is the variety of races involved. Thus, in 1928 the populations of the three territories were distributed as follows:—

	<i>Natives.</i>	<i>Whites</i>	<i>Indians</i>	<i>Arabs.</i>	<i>Others.</i>
Uganda	3,123,000	1,750	11,600		
Kenya	2,680,000	12,500	26,760	10,500	3,800
Tanganyika	4,300,000	5,300	9,400	4,800	800

The comparatively small groups of white settlers are chiefly administrators or holders of official positions, the owners or managers of estates in the plateaux regions and the representatives of European trading concerns. The larger Indian elements, originated mainly in an influx of cheap labour from India, utilised in the construction of the Kenya-Uganda Railway, but now include lesser officials of various services, the smaller tradespeople and a few agriculturists. The natives, who form 99 per cent. of the whole community, belong to many different races and tribes, and provide the labour for practically all enterprise; and in Uganda and parts of Tanganyika are also producers of agricultural commodities. Any scheme of confederation has to reconcile these various interests.

- (2) The variations in types of government are at present considerable. In Kenya there is already an approach towards representative government. The Legislative Council there consists of 19 nominated officials, 11 elected Europeans, 5 elected Indians (elected from the Indian community as a separate community), 1 nominated and 1

elected Arab and one nominated member to represent the interests of the natives. In Uganda and Tanganyika Territory, on the other hand, the Legislative Councils have no elected members, there is no semblance of or approach to representative government, and local tribal heads among the natives have considerable powers.

Arguments advanced against the proposed confederation are therefore as follows :—

- (a) Some of the European element in Kenya fear that the interests of the white settlers in Kenya might be sacrificed in order to bring the native policy of that Colony into line with a policy suitable for Uganda and parts of Tanganyika.
- (b) The Indian communities of both Tanganyika and Uganda argue that in Kenya at present Indian interests are subordinated to white interests, and that political union would lead to an extension of this state of affairs.
- (c) The natives of Uganda and parts of Tanganyika express the fear that the control of their destinies would be transferred to Kenya and that they would be deprived of the right of access, which they have at present, through their Governors to the Secretary of State for the Colonies.

Accordingly, the proposals of the Hilton-Young Commission, *The Hilton-Young Commission* (January, 1929) that a High Commissioner should be appointed to co-ordinate not merely economic facilities but also policy on native affairs and all matters concerning the relations between natives and immigrants, were coldly received. Sir Samuel Wilson was therefore sent to East Africa to report on the situation and his report was presented in October, 1929. He recommended the appointment of a High Commissioner, senior in status to the Governors of the three Colonies, to exercise complete legislative and administrative control over certain common services, customs, railways (including ports and harbours), posts and telegraphs, defence and fundamental research. In exercising these functions he would be assisted by a Central Council nominated by him, and representative of Kenya, Uganda and Tanganyika, the powers of which would be limited to the subjects mentioned *The Wilson Report*

above. Control of native affairs would, however, still remain in the hands of the Governors and Councils of the three separate colonies. The object of these proposals was to ensure the maximum amount of co-ordination in the development of common economic facilities, such as intercolonial railways, with the minimum disturbance of policies applied to the native majorities in the three separate areas.

No decision has yet been announced with regard to this scheme ; but it is obvious that the whole matter is still further complicated by the status of Tanganyika as a mandate to Great Britain from the League of Nations.

*The Status of
the Indian in
Kenya*

The status of the Indian in Kenya presents a number of difficult problems which have a bearing on the whole future of the East African Colonies. For several centuries, there have been Indian merchants established along the east coast of Africa, and, with the opening of Uganda and Kenya under British administration, Indian traders have penetrated into the interior. Many Indian artisans and labourers, employed on the construction of the Uganda railway, remained to engage in commerce, and, at the beginning of the present century, the number was greatly increased by the arrival of other artisans, clerks and small traders from India. There is also a small number of professional men and traders on a large scale, but the agricultural Indian is comparatively rare in the Colony. At the present time, it will be observed from the figures previously quoted, that the Indians outnumber the British by more than two to one.

Three important issues have arisen in the relationships between the white and Indian sections of the population, (1) the question of ownership of land in the Highlands, (2) the question of racial segregation, and (3) the question of political status. With regard to the first of these, in 1908 the British Government announced a policy of reservation of the Highlands for European settlers, and, since then, the plateau regions have become the home of many white men and their families who have greatly developed these regions and increased the wealth of the whole country. Indians have not been permitted to acquire lands in those parts, and have considered that in this respect they have been treated with unfair discrimination. A system of racial segregation, by

which the Indian community should be restricted to certain residential and commercial areas in the towns was recommended, on sanitary grounds, by a sanitation expert in 1913, and the view was accepted by the British Government; but, when an attempt was made to apply it after the war, it was found to be regarded by the Indians as a national insult and as an attempt to reduce their economic and social importance. Finally, when, after the war, it was decided to give effect to the long standing desire of the European community for representation on the Legislative Council of Kenya, by means of elected members, this was followed by a demand from the Indian community that they also should have representation commensurate with their numbers and interests; and the question was further complicated by a division of opinion as to whether the Indian and British voters should be on one electoral roll, or should be on separate communal rolls.

The policy of the British Government was eventually outlined in the Devonshire Report in 1923. This report laid down the important axiom that primarily Kenya is an African territory, that the interests of the African must be paramount, and that if those interests and the interests of the immigrant races conflict, the African interests must prevail. The fundamental duty of the British Government in Kenya, as in Uganda and Tanganyika, is therefore that of a trustee for the natives; and they regarded the grant of responsible self government to Kenya as out of the question for the present because it would really mean the government of a large majority of politically inarticulate people by a small minority whose interests might not be identical with the interests of the native and whose opinions might not be unbiassed.

The report recommended, however, that the interests of the British and Indian immigrants should receive fuller representation, by the election on a communal basis, of 11 unofficial Europeans and 5 Indians to the Legislative Council of the Colony. Racial segregation, it was considered, was neither practicable nor justifiable; and the principle of reserving the Highlands for European settlement was to continue, but an area of land should be reserved in the Lowlands for Indians, in order to ascertain what demand there was for agricultural land on their part.

*The
Devonshire
Report
(1923)*

It cannot be said that the aspirations of either the British or Indian settlers were satisfied by this arrangement, which came into effect in December 1925. The British settlers regard Kenya as their home, and desire a further share in its government. They argue that their experience and residence in the country make them at least as capable of governing the native African in the right way as is a distant department in London. The Indian settlers feel that their interests have been sacrificed to those of the British element, that their representation is inadequate and that the communal system is a slur on their nationality. They fear that any extension of representative government in Kenya would be so regulated as to diminish their status. They claim equality on the score of length of residence in the colony, contribution to its economic progress, and their British citizenship.

*The Problem
of the Native
African*

These problems of confederation and of Indian status are still further complicated by what is the ultimate question—the position of the African peoples who form the vast majority of the population.

At the present time, the small white minorities have the skill and knowledge by means of which the country is developed. They have the power of organisation and they have also the weapons of modern warfare. The large black majority forms the reserve of labour without which white settlement would be an utter impossibility. Both sections, together with the Indian community, are contributing to the progress of the country.

The problem is “to devise forms of government which shall satisfy the legitimate aspirations of the minority for self government, and yet be just to the native majority, not only in the immediate present, but when, after the lapse of years, the inarticulate majority shall have advanced far on the path of progress and has become self conscious and self assertive.” The main problem is therefore one of the future, when the native African is more educated than to-day, and when the number of white and Indian settlers is much larger.

*Political
Education
of the
African*

The progress of education among the coloured peoples of the world is inevitable, and its results can only as yet be dimly comprehended. It tends to break down the old systems of village or tribal discipline, based on religious or superstitious conceptions; and, if it is to be successful, it must aim not

merely at supplying the needs of material development, such as clerks, artisans, and skilled workmen but it must also substitute something for what it has destroyed. It is open to serious doubt whether a satisfactory substitute for the tribal systems so destroyed is to be found in the form of democracy based on representative institutions which was evolved by the Anglo-Saxon race to suit its own needs and characteristics.

It has been suggested, therefore, that the problem should be attacked by drawing a line between the white settlements in Africa and those parts in which the natives might be given a chance of evolution, under political institutions more suited to their own traditions and characteristics. Sir Frederick Lugard, a few years ago, propounded such a scheme, by which the British settlement in the highlands of Kenya, should be defined, including within it a considerable native population; with access to the sea at Mombasa; and with representative institutions leading in due course to self government. The Governor should legislate with the assistance of an Advisory Council for the native territories outside this settlement, under a separate commission as High Commissioner. In this native area there might then grow up and develop dependent native states in which Africans would learn to manage their own affairs under British guidance. If some such plan is not adopted there is the danger that the East African Colonies will be faced at some future date with a problem similar to and even more intractable than that which is beginning to face the Union of South Africa to-day.

After a consideration of the Hilton Young and Wilson Reports the British Government published its conclusions in June, 1930. These conclusions, which will be submitted to a Joint Committee of the two Houses of Parliament, are briefly as follows. (1) A High Commissioner, senior to the three Governors, should be appointed to supervise Kenya, Uganda and Tanganyika. He will be the chief adviser to the Secretary of State on native and other policy, and will have a power to suspend legislation likely to be inimical to native or other racial interests. He will administer and legislate, with the help of a nominated Council, equally representative of the three territories, in respect of "transferred" subjects, of which the chief are: communications, defence,

*The Government Report,
June, 1930.*

customs and research. (2) The constitution of the Legislative Council of Kenya shall remain substantially as at present, but the establishment of a common electoral roll for all qualified voters irrespective of race is foreshadowed as an ideal. (3) The political education of the native African is to be aimed at, by the development of native, social and political institutions, wherever such institutions exist, even in germ, in a form worthy of preservation. (4) The distinct position of Tanganyika, arising out of its status as a mandate is to remain unimpaired.

CHAPTER XIV

EGYPT, THE SUDAN, AND THE SUEZ CANAL

THE position of Egypt in relation to the communications of the British Empire has been touched on in earlier chapters. It is the centre of a wheel from which spokes radiate to India, South Africa, Australia and the Far East. It is charged with the protection of the most vital artery of British trade. Further, its situation, as a nodal land connecting Europe, Asia and Africa, is reflected in its political and religious problems, which mainly deal with the fitting of Western political habits to Eastern modes of thought. Its development towards political independence is therefore an experiment the result of which is of vital importance not merely to the British Empire, but to every land which has territory in the East.

The anomalous position of this land, which appears to be at the same time both within and outside the Empire, requires some explanation. From the year 1517 the Turks were the nominal rulers, but only exercised a slight measure of control and exacted a yearly tribute. With the beginning of the nineteenth century, immediately following the military occupation by French and British forces in the time of Napoleon, there succeeded a fierce and long-drawn-out civil war, ending in the complete victory of a capable adventurer—Mohamed Ali—who remained absolute ruler until his abdication in 1848. Mohamed Ali acknowledged the suzerainty of Turkey, and succeeded in having the throne made hereditary in his family. During the reign of his fourth successor, the Khedive Ismail, French and British commercial interests greatly increased in Egypt, especially after the opening of the Suez Canal in 1869. At the same time, the extravagance and mismanagement of finances on the part of Ismail and his ministers led to the accumulation of a huge Egyptian debt owed mainly to French and British bankers.

*Brief
Historical
Note*

In 1875, needing money urgently to satisfy his private creditors, the Khedive sold his shares in the Suez Canal Company to the British Government, and in the following year, in order to safeguard their financial interests, the British and French established a joint financial control in Egypt known as the "Dual Control" (1876-83). Certain small sections of the population bitterly opposed this foreign interference, and the rebellion and defeat of Arabi Pasha followed (1882). France refused to co-operate with Great Britain in the suppression of this revolt, and shortly afterwards withdrew entirely from the "Dual Control." To maintain order and safeguard the Canal, Great Britain alone thenceforward kept in Egypt an army of occupation, and appointed herself financial adviser to the Egyptian Government.

From that date (1883) until 1904 the British were in Egypt only as a temporary measure. Serious trouble in the Sudan (1881-85 and 1898) prevented the removal of the garrison. At the same time during this period great strides were made by the country under the new management. Irrigation, the building of the Aswan and Assiut dams and general financial reorganisation put Egypt on a prosperous footing. In 1904 the Anglo-French Entente gave Great Britain a free hand and allowed her to choose her own date for evacuation. Later still in 1914, on the entry of Turkey against the Allies, the suzerainty of Turkey over Egypt was declared at an end, and Egypt and the Anglo-Egyptian Sudan, were annexed to the British Empire as Protected States. The Treaty of Sèvres 1920, between Turkey and the Allies, recognised the British Protectorate in Egypt, and Turkey renounced the tribute formerly levied.

In the meantime, an Egyptian Nationalist movement (the Wafd) had been gathering weight. The programme of this movement was :—

- (a) Complete freedom for Egypt from British rule and supervision.
- (b) The absolute neutrality of the Suez Canal.
- (c) The establishment of Parliamentary Government in Egypt.
- (d) The handing over of the Sudan to Egypt. (It should

be noticed that the Sudan has never historically been under effective Egyptian control.)

In 1919 the British Government announced their agreement with the principle of Self-Government for Egypt, and in 1920 sent out Lord Milner to report on the matter. After a conference between British and Egyptian representatives a tentative agreement was drawn up, promising Self-Government in the immediate future, but reserving to Great Britain the following rights :—

- (1) To guarantee Egypt from outside aggression, and to have access to Egyptian territory in case of war.
- (2) To control the foreign policy of Egypt, and represent Egypt in countries where no Egyptian representatives are appointed.
- (3) To maintain a British garrison in the Suez Canal zone.

Discussions were continued in 1921 and on February 28th, 1922, the British Protectorate came to an end, and Egypt was recognised as an independent sovereign state. The Imperial Government reserved, however, for future discussion,

- (a) The security of the communications of the British Empire and Egypt.
- (b) The defence of Egypt against all foreign aggression or interference.
- (c) The protection of foreign interests in Egypt and the protection of minorities.
- (d) The Sudan.

Egypt thus became a foreign kingdom occupied temporarily by a British military force. It remained the headquarters of the Middle East Air Command, and the site of a number of Imperial aerodromes and depots. The most important of these aerodromes are Abukir (for Alexandria), Heliopolis and Helwan (for Cairo), and Moascar and Abu Sueir in the Canal Zone.

The eastern land boundary of Egypt runs from Kelaat on the Gulf of Akaba to Rafa, just 18 miles east of El Arish. The western boundary runs south from the Gulf of

*Boundaries
and Physical
Features*

Sollum, separating Egypt from Tripoli.¹ The southern boundary is Lat. 22° N., which runs a little to the North of Wadi Halfa and separates Egypt from the Sudan.

The extent of the country from Cairo to Wadi Halfa is 560 miles, and its nominal area 350,000 square miles. The real Egypt of importance, however, is a comparatively narrow strip formed by the Nile valley and delta. This valley varies in width from half a mile to ten miles, and is enclosed on both sides by a line of cliffs, for the greater part of the way. The fertile and very densely populated lands occupy the floor of this valley between the river and the cliffs, and are irrigated by the Nile and subsidiary canals. At Cairo this corridor spreads out into the delta, which is the richest and most fertile part of the country. The total area of the fertile strip is about 17,000 square miles, or about one-half per cent. of the whole area of the country.

The most prominent physical features are :—

(a) *The Libyan Desert* on the west—a great limestone plateau almost completely deserted except at a few oases.

(b) *The Eastern or Nubian Desert*—a backbone of high and rugged mountains, extending from Abyssinia, in a north-westerly direction to near Suez, and continued in a detached mass in the Sinai Peninsula.

(c) *The Nile*—the artery of the whole country, and the chief source of wealth and movement. The annual flooding of this river is the most important feature of life in Egypt. The rise begins about June 16th, most of the flood water coming from the Abyssinian mountains by the Atbara and the Blue Nile, and continues until September. It is practically the one source of water in lower Egypt, and in order to conserve some of it for the other months, the Delta barrage about 13 miles north of Cairo, the great dam across the Nile at Aswan, and barrages at Damietta, Rosetta, Assiut, Zifta and Esna have been built. From these, by artificial channels, water can be supplied in March when it is required for the fields.

¹ An Italo-Egyptian agreement (Feb., 1926), transferred to Italy the oasis of Jerabub, a centre of great political importance, which possesses the tomb and mosque of the founder of the Senussi and the monastery college of that order which make it the goal of pilgrims from many parts of the Moslem world.

The population of Egypt is about 13,000,000, chiefly *Population and Resources*
made up of :—

- (1) *Egyptians*—known in the rural districts as Fellahin, who are mainly Mohammedans, but include rather less than 1,000,000 Copts.
- (2) *Bedouin* who live chiefly on the margin of the cultivated area.
- (3) *Nubians* of Hamitic origin between Wadi Halfa and Aswan.

The great majority are completely uneducated, easily led and without fixed opinions.

The most important exports are : cotton, phosphate rock, petroleum and manganese iron ore. No coal or iron is mined in the country.

Under the Egyptian Constitution service in the Egyptian *Local Defence* Army is universal and compulsory, but only a small fraction, who are liable actually serve, and the total strength at present is about 10,000. The period of service is five years. Some of the higher positions in the army are held by British officers.

THE ANGLO-EGYPTIAN SUDAN

The Anglo-Egyptian Sudan is separated from Egypt by the line of latitude 22° N. which runs a little to the north of Wadi Halfa. In the extreme east the boundary line turns north-east and finally reaches the Red Sea at Lat. 23° 10' N. The extent of the country from Wadi Halfa to the boundary with Uganda is nearly 1,500 miles, and its area is about 14 times that of Great Britain.

It lies partly in the basin of the Nile and its tributaries, and partly in the interior drainage basin of the Sahara. The most prominent physical features are the Nuba Hills of Central Kordofan, the Red Sea Hills, the mountains of the Abyssinian plateau on the east, and the Sudd region round the network of rivers on the south.

The river system consists of the Nile and its tributaries *Rivers* which can be divided into two groups according to whether they give a perennial supply of water or only flood water.

(a) Perennial Supply.—The Bahr-el-Gebel and Bahr-el-Ghazal which unite to form the White Nile.

(b) Flood Supply.—The Blue Nile, Atbara and Sobat.

The first groups are fed by the tropical rains of equatorial Africa and supply practically all the constant low water supply of the Nile. The second group, which rise in the Abyssinian highlands, obtain their water from the summer rains and furnish the flood water. The flooding of the Sobat (the most southerly of these tributaries) occurs first, about the middle of April, that of the Blue Nile about a month later, and that of the Atbara later still. The combined flood reaches its maximum at Wadi Halfa towards the end of June and at Cairo towards the end of September.

The more important of the two chief sources of the perennial supply is the Bahr-el-Gebel which emerges from Lake Albert and enters the Sudan at Nimule. From here northwards to Lake No, its course winds through one of the greatest swamps in the world in which its channel is very badly defined. This region, known as the "Sudd," is produced by masses of reeds and other river vegetation breaking loose from the banks and floating down stream with attached soil, until they meet some obstruction against which they lodge and form a natural dam or barrier, which eventually causes the flooding of the low-lying ground. Vast tracks are, by this process flooded, and much of the perennial supply of water wasted by dissipation over the area and subsequently by evaporation.¹ Further, it is a disadvantage to navigation and the river can only be kept open by shifting these floating blocks before they accumulate sufficiently to form a barrier. At Lake No the Bahr-el-Gebel and Bahr-el-Ghazal unite to form the White Nile which then flows east until joined by the Sobat. Thence it turns north and is joined by the Blue Nile at Khartum and the Atbara near Berbera.

Climate

The climate is severely tropical, the temperature varying at Khartum between 92° and 70°. Rainfall can best be described with reference to three regions. The northern region extending from Egypt to the latitude of Khartum is practically rainless except on the shores of the Red Sea. The central region,

¹ Estimated at about 40 per cent.

south of Khartum to Lake No, receives a south-west monsoon for the three summer months, bringing about five inches of rain and followed by drought, while farther south the rains are heavier and last longer, until near Uganda a region is reached where rain falls every month, the heaviest falls occurring in May and October and the average for the year amounting to 38 inches.

Corresponding to these regions there are three distinct areas of vegetation which merge from one into another.

(1) The northern or desert region.

*Vegetation
Regions*

(2) The middle or grassland region, in which the rainfall is not sufficient for tree growth, except along the courses of rivers and streams.

(3) The southern region of tropical swamp and jungle merging into savannah in the north, east and west.

The total population is about 6,000,000, and, of these, negroes and Arabs form the bulk. The three vegetation regions are chiefly inhabited as follows:—

(1) The northern region by camel owners, mainly Arabs *Population* who live in the desert districts and own large herds of cattle, sheep and goats.

(2) The central region by a mixture of Arabs and negroes.

(3) The southern region by negroes of many races and languages.

The chief centres of population are Omdurman (the old Dervish capital) and across the White Nile the administrative capital, Khartum. Wad Medani on the Blue Nile, El Fasher in Darfur and El Obeid in Kordofan are also of importance.

The Sudan contains many warlike peoples such as:—

(a) The Nuba tribesmen of the Nuba Hills who defend their strongholds by stone walls built across the valleys and by tactics similar to those of tribesmen on the North-West Frontier. Successive expeditions in 1908, 1909, 1910 and 1911 brought them into subjection.

(b) The people of Darfur, west of Kordofan, who remained semi-independent until 1916, when, following a rebellion

of their Sultan, the country was conquered and incorporated as the fifteenth province of the Sudan.

(c) Nilotic tribes of the south such as the Nuers and Dinkas.

Resources

The chief exports are gum arabic (the Sudan is the world's chief source of supply), rubber, cotton, cattle and ivory. Iron ore and copper exist in considerable quantities, and are worked in a primitive way but not on a large scale.

Cotton is the commodity most likely to be developed in the immediate future. The variety produced in the Sudan (unlike Indian cotton) is of excellent quality and suitable for British manufacturers, and its development is consequently being strongly pushed by the British Cotton Growers' Association. Two schemes in particular deserve notice. The first is the Gezira Irrigation dam at Makwar across the Blue Nile, 170 miles south of Khartum, which makes it possible to irrigate for cotton growing 300,000 acres of land in the delta between the Blue and White Niles (the Gezira). The second project is the development of the area between the branches of the River Gash (the Gash Delta), which is being carried out by the Kassala Cotton Company. Irrigation flood works have been constructed in this area, and it is hoped that ultimately over 100,000 acres will be made productive for cotton growing.

Other important schemes are contemplated. Work on a dam at Jebel Aulia,¹ 29 miles south of Khartum, has been in progress until recently, and projects with regard to conserving the water supply of Lake Tsana, and Lake Albert, are under consideration at present.

*Lines of
Communication in the
Sudan*

The chief features of the lines of communication in Egypt and the Sudan will be described in a subsequent section. The Nile, with its railways, and the line from Atbara Junction to Port Sudan and Suakin are the main routes to the outside world. These are fed by caravan routes and roads, or, in the equatorial region of the extreme south, by bush and forest tracks, where the only type of transport is human portage. Connection with Uganda and Kenya is now maintained by a motor road from Nairobi to Mongalla, whence there is a road to Rejaf at which navigation commences on the Nile. From Rejaf there is regular steamer communication by flat-bottomed paddle steamers to Khartum. An important new line opened

¹See Page 242 (foot-note).

in April, 1924, and running from Haiya, 6 miles west of Thamiam on the Atbara-Port Sudan railway, to Kassala, 216 miles farther south, should be noticed. Its immediate object is the development of cotton growing in the land of the Gash Delta, referred to above. It also taps the eastern and southern areas of the Kassala Province which are extremely fertile in gum arabic, sesame and millet, but which have previously had no outlet to markets except by camel transport 250 miles to Wad Medani or 300 miles to Suakin.

Recently this line has been extended to Gedaref, another important trading centre, and has been linked across the desert with the Khartum-El Obeid line at Makwar, where the dam across the Blue Nile was expressly designed to take a railway line. The section via Kassala, Gedaref and Makwar gives a shorter and cheaper route from Kordofan to the Red Sea, and will become the main trade route for gum arabic and sesame and eventually for cotton also from the western as well as the eastern Sudan. It is also near enough to the frontier to tap the western regions of Abyssinia which, so far, have been dependent on camel transport and the line from Addis Ababa to Djibouti.

The Sudan is divided for administrative purposes into 15 *Government* provinces, each under the control of a British official of the Sudan Civil Service. The head of the administration of the whole country is a Governor-General, who is appointed by the Khedive on the advice of the British Government, and is assisted by a council the members of which are nominated from the Government officials.

The Garrison is mainly composed of units of the Sudan *British Garrison* Defence Force consisting of the 9th Sudanese Battalion, the Eastern Area Corps, the Central and Western Camel Corps and the Equatorial Corps under a General Officer commanding. One British battalion is normally stationed at Khartum with a detachment in the summer months on the Red Sea Hills near Port Sudan, and a company is also stationed at El Obeid.

The grant of independence to Egypt in 1922 has raised *The Political Future of the Sudan* difficult questions with regard to the political future of the Sudan. A strong Nationalist party in Egypt demands the withdrawal of British control from the country, and the whole subject is still under discussion. The economic bases of their

demand are the growing wealth and the future importance of the Sudan as a possible outlet for surplus Egyptian population and as the source of the water supply essential to Egypt.¹ On the other hand it may be pointed out that there is a grave doubt whether Egypt could maintain an effective control of the warlike races of the Sudan without the presence of British prestige and officers, and, should effective control come to an end, a state of anarchy would arise which would make its effects strongly felt not merely in Egypt but also in neighbouring countries such as Uganda and Kenya Colony. Further, practically all the vast improvements made in the Sudan of recent years have been accomplished by British capital and effort, and its importance as a source of raw cotton is increasing to such an extent that it may within a reasonable period produce the chief supply of that commodity within the Empire.

*Railway
Communications.*

All railways in Egypt north of Shellal are of standard gauge (4 ft. 8½ ins.). At Shellal a journey south must be done by steamer on the Nile to Wadi Halfa. The railway starts again at Wadi Halfa (3 ft. 6 ins.), crosses the Atbara and Blue Nile, runs through Khartum, and thence on to Sennar, where it curves round in a westerly direction to the terminus at El Obeid. Branch lines run from Wadi Halfa to Kerma at the third cataract, and from Abu Hamad to Merowi, and from Atbara junction to Port Sudan and Suakin (331 miles).

*Water
Communications*

Water communications play a very important part in Egypt, and would be useful as subsidiary lines of communication in case of war. The Nile is the main route, and produce is carried on it from the different towns by numerous sailing boats and steamers. It flows from south to north, while the prevailing wind in Egypt blows from north to south, so that sailing vessels can sail up the river with the wind and then lower their sails to drift down with the current. It communicates with the Mediterranean Sea by its two main branches at Rosetta and Damietta, but on account of the quantity of mud suspended in the river, and then deposited at its junction

¹ A dam at Jebel Aulia 29 miles south of Khartum on the White Nile, was begun in 1920, but work was suspended in 1926, pending an investigation into the possibility of heightening the Aswan dam. It was argued that, if the Jebel Aulia dam were completed, the supply of water to Egypt could be stopped for several weeks in the year by closing the Jebel Aulia and Makwar dams.

with the sea, the depth of water over the bar is small, and only vessels of shallow draught can enter. When the river is low, entrance is completely prevented because the river water is used for the irrigation of the Delta, and barrages at the mouth of each arm are then closed.

From Cairo to Aswan the Nile is a cheap and efficient means of transporting more bulky articles. At Aswan it flows through a narrow gorge, forming three miles of rapids, which can now be passed by means of a lock in the river valley. South of Aswan there are a number of long navigable reaches, each of several hundred miles in length, but separated from one another by the various cataracts. The rapids of the second cataract, south of Wadi-Halfa, are 20 miles in length, and beyond them lie the minor rapids of Semna, Wadi Atiri, Ambergol and Tanjour. These are followed at intervals by others, and then by an open reach of about 80 miles before the third cataract is arrived at. Between the third and fourth cataracts there is navigable water for 200 miles, and a distance of 80 miles divides the latter from the fifth.

South of Khartum the cataracts cease, and conditions of navigation are on the whole better. At flood time, the Blue Nile is navigable up to the Abyssinian frontier, but its water is dependent largely on the rain in the Abyssinian mountains, and steamers can only ascend for a limited distance after December. In the same way, the Atbara in the summer time becomes a series of pools, and is of no use for transport during that season. The White Nile, on the other hand, which receives a fairly constant supply from Lake Albert throughout the year, is always navigable and Government steamers run regularly between Khartum and Rejaf, via Kodok. Steamship services also operate on the Sobat and the Bahr-el-Ghazal. A regular steamship service runs as far as the water conditions will permit on the Blue Nile also.

In the Nile Delta there are a number of important canals *Canals* which are used partly for navigation and partly for supplying water to irrigate the land. In this connection, the Mahmudia Canal leading from the Rosetta branch to the city of Alexandria requires mention, as it provides, not only an inland waterway to the town, but also furnishes the water supply. The fresh-water canal from the Nile near Cairo to the Suez

canal at Ismailia is of particular importance as the chief source of water supply for the canal towns, such as Ismailia.

*Caravan
Routes*

The caravan routes of Egypt, at one time of great importance, have lost much of their value through the development of railways. This is particularly the case with the caravan route which runs from Aswan across the Nubian Desert to Abu Hamed, thus avoiding the loop in the Nile. The only routes which remain of importance are those that follow the line of oases across the Libyan Desert from Tripoli to the Nile Valley, passing through the oasis of Siwa. Such routes are almost valueless for the movement of troops on a large scale, and are nothing more than camel tracks.

Ports

The only ports of importance are Alexandria and Port Said on the Mediterranean; Suez on the Gulf of Suez; and Port Sudan and Suakin¹ on the Red Sea, from which the railway runs across the Nubian Desert to the main Sudan railway, meeting it south of Berbera. This latter is the shortest and most suitable route for the movement of troops from India into the Sudan, though it should be noticed that entry into the Sudan is now possible from the south also, via Mombasa.²

THE SUEZ CANAL

From an Imperial standpoint, Egypt's chief importance at present is as a zone of protection for the Suez Canal, and any discussion of the defence of the country must inevitably centre round the security of this line of communication.

The Suez Canal built between 1860 and 1869 is the property of the Suez Canal Company (Paris), in which the British Government holds $\frac{7}{8}$ of the shares and on whose board there are ten British directors, of whom three are representatives of the British Government. The concession of land and rights obtained by the company from the Egyptian Government expires in 1968, and attempts which have been made recently to extend this concession have failed, largely through the desire of Egyptian nationalists to discredit the British administration.

In 1888 by a convention made between Great Britain, Germany, Austria-Hungary, Spain, France, Italy, the Nether-

¹ Suakin is used chiefly by small native craft.

² The journey from Mombasa to Khartum would take about 22-24 days.

lands, Russia and Turkey, these powers agreed that the Canal should be free and open in time of peace or war to vessels of commerce or war, without distinction of flag. They agreed also not in any way to interfere with its use or obstruct or blockade it, and its ports of access, within a radius of three miles from those ports.

The total length from Port Said to Port Tewfik is 87 nautical miles. At the northern end lies Port Said, where a large breakwater has been built to prevent the harbour from being silted up by the mud, which is brought by a current that sweeps eastward, past the delta of the Nile. Along the western side of the canal runs the railway from Port Said, through Ismailia to Suez. From Ismailia a line runs westward to Cairo and Alexandria; and at El Kantara a line, constructed during the war, starts which follows the old coast road at the north of the Sinai Peninsula through El Arish and Rafa to Gaza, to connect up with the Palestine railways. Further, a fresh-water canal runs from the Nile to Ismailia and thence to Suez and Port Said parallel to the Suez Canal, conveying the fresh water required by the Canal towns.

The Canal is too narrow to permit of large ships passing one another at all points, and fifteen special sidings exist for this purpose. Owing to the sides being liable to disintegrate under the wash caused by the passage of vessels, speed is limited to $5\frac{1}{2}$ knots, and the average time of transit is about 16 hours. Passage by night is facilitated by the use of searchlights on the vessels. Improvements authorised in 1912 make provision for the passage of ships, having a draught of 33 feet, but a new programme of improvements is being carried out, which will enable the canal to receive vessels of 35 feet draught; and with this object in view the waterway is being deepened to 43 feet.

The special importance of the Suez Canal to the British Empire is obvious. If it were closed by accident or hostile action, India would be removed 4,300 miles further from Great Britain, Singapore 3,300 and Australia 1,200. The alternative routes by the Cape, owing to these greater distances, would take longer and require more shipping. Not merely would this affect military reinforcements and supplies, but a large number of vital commodities required by Great Britain

The Importance of the Suez Canal to Imperial Communications

and Western Europe would be delayed. Wheat from Australia and India ; rice from Burma, Indo-China and Siam ; oil seeds from India, Ceylon and Malaya ; mineral oil from Persia ; jute, tea and manganese from India ; rubber and tin from Malaya ; sugar from Java ; wool from Australia would all be affected. Every European country would feel the effect if the Suez Canal were closed, but particularly Great Britain owing to our paramount position in the Indian Ocean, our great share of the trade there and the fact that more than half the shipping which annually uses the canal, is British.

Free passage through it could be threatened in three ways :

- (1) By naval action in the Mediterranean and the Red Sea, making access to or exit from the canal impossible. A loss of British naval control in the Mediterranean would produce such an effect. Under these circumstances, provided we could still hold control of the Red Sea and particularly of its narrow entrances past the island of Perim, hostile shipping could not enter the Indian Ocean.
- (2) By land attack from Egypt or Palestine. This might occur in the event of a temporary loss of our sea power in the Mediterranean.
- (3) By sudden and surprise action against the canal itself such as sabotage, the blocking of the canal by the sinking of a large ship in its waters, or by air action, any of which measures might possibly be carried out prior to an actual declaration of war.

From the British point of view, therefore, the defence of this vital link in our line of communications depends on

- (a) Naval supremacy in the Mediterranean ;
- (b) Military control of the Suez Canal region ;
- (c) Naval supremacy in the Red Sea.

The loss of all three would allow hostile shipping into the Indian Ocean by the most important route and would endanger the existence of the Empire. The loss of (a) only would handicap us, but as long as (b) and (c) were maintained our position in the Indian Ocean would still be immensely stronger than that of any other power.

Up to the present, as we have seen, British military control

of the Canal has been, secured by a military occupation of Egypt, thus ensuring the safety of the fresh water supply, and of the bottle-neck of the cable system, and preventing any possibility of foreign interference which might jeopardise our line of communication. Recently, however, a Treaty between the British and Egyptian Governments, was considered, which proposed an alternative method of control. The substance of the clauses in this Treaty which referred to the Canal were as follows :—

- (1) In order to secure for Great Britain the protection of the Suez Canal as an essential means of communication between the different parts of the British Empire, British troops would be maintained in localities on Egyptian territory to the East of Long. 32° E. The military occupation of Egypt elsewhere would be terminated. The Egyptian Government would provide lands, barracks, etc., in the localities determined on, equivalent to those now occupied by the British forces in Egypt. On the completion of this new accommodation the forces should be transferred there, handing over the lands, barracks, etc., vacated to the Egyptian Government. Having regard to the character of the region lying to the east of Long. 32° E. the Egyptian Government would furnish reasonable amenities for the troops, by planting trees, gardens, etc., and would provide an adequate emergency fresh water supply. *The Proposed Anglo-Egyptian Treaty, 1929*
- (2) Should either Great Britain or Egypt become engaged in war the other would immediately come to its aid as an ally. In particular, Egypt would, in the event of war or menace of war, furnish on Egyptian territory all facilities and assistance including the use of ports, aerodromes and means of communication. In view of the necessity for similarity of training and methods in the British and Egyptian armies, if foreign military instructors should be required for the Egyptian army, they should be British subjects.
- (3) Unless the two governments should agree to the contrary, the Egyptian Government would prohibit the passage of aircraft over the territories situated on either side of the Suez Canal within 20 km. of it. This would not apply to British or Egyptian civil or military aircraft.

Had these arrangements been ratified, the British troops would have been removed from Cairo and Alexandria to an area about eighteen miles in width on the west bank of the Suez Canal, in which lie Port Said, Kantara, Ismailia, Suez and the aerodromes of Moascar and Abu Sueir. They would have been separated from Egypt proper by a desert across which there are only the following routes: Kantara through Fakus to Zagazig, the railway (single track) from Ismailia to Zagazig, the track along the disused railway line from Suez to Cairo, and the so-called Suez-Cairo road. The last two are merely camel tracks, ninety miles in length across the open desert. British isolation by land would then have been very complete. The important aerodromes at Aboukir and Heliopolis would have been handed over to the Egyptian Government. The cable bottle-neck would have been under Egyptian control, as would also the northern terminus of the future Cape to Cairo railway, and the Nile entrance to the fresh-water canal.

*The proposed
Status of the
Sudan*

The negotiations with regard to this Treaty broke down however in May, 1930, over questions relating to the Sudan. The Egyptian delegation at the conference demanded unrestricted Egyptian immigration into the Sudan, and a general reopening of the whole question with regard to the ownership and government of the Sudan. Owing to the breakdown in the negotiations the status of both Egypt and the Sudan remains unaltered, and the British occupation of the Nile Valley will presumably continue.

THE SINAI PENINSULA

The Sinai Peninsula connecting Palestine with Egypt is the historic route of invasion into the valley of the Nile. It has an even greater importance in modern times in so far as it might be charged particularly with the defence of the Suez Canal.

The sketch map shows that it consists of three main geographical regions.

(1) The northern coastal region, of sandy desert broken here and there by a number of wadis, of which the most important is the Wadi-el-Arish.

(2) The rising central plateau of gravel, changing to lime-

stone further south, and ending suddenly in a great escarpment known as the Tih escarpment, which cuts the Peninsula as regards communications practically into two parts.

(3) South of the Tih escarpment, after a comparatively narrow strip of sand and gravel, the land rises into the Sinaitic mountains, which form a triangle and culminate in the two peaks of Mt. Sinai and Gebel Katarina which are 9,000 ft. high.

Three roads cross the sandy and gravel plains of Sinai, the first being a coast road from Gaza through Rafa and El Arish to El Kantara; the second runs from Audja, across the central gravel plains to meet the Suez Canal near Ismailia. This was the route taken by the Turks in their attack on the Suez Canal in 1915. The third runs from Mecca through Akaba, across the limestone plateau, passing through Nekhl to Suez, and was the old route used by pilgrims from Africa, but is now replaced to a great extent by the railway service which connects Khartum with Port Sudan and Suakin, and the steamship service operating between these ports and Jeddah.

The only railway is the one constructed during the war, following the coast road from El Kantara through El Arish and Rafa to Gaza, and connecting up with the line to Jerusalem. The difficulties of this railway are those which are found in working almost every desert railway, viz.: clogging of the lines by sand, delay and difficulties with regard to water supply. During the war the road was used for heavy motor transport, but being merely a track across the sand, proved unsatisfactory, until an ingenious use of rabbit netting, stretched and pegged tightly down, gave a better surface.

THE ABYSSINIAN FRONTIER

Abyssinia is now the only country in Africa apart from Liberia which has been able to retain its independence. This is due to two causes. First, the fact that the country itself possesses great defensive properties; and secondly, the jealousies of the various European powers concerned. From a comparatively narrow region of low-lying country in the East, it rises suddenly in an escarpment to a mountainous tableland, in which the highest mountain Ras Dashan, is only a little less in height than Mt. Blanc. This tableland then slopes down gradually in broken hills to the plains of Sudan. Abyssinia is thus the watershed between the Nile and the Red Sea, and forms a barrier to movement across in either direction. Penetration into the country is the more difficult owing to an almost complete lack of roads and a general anti-foreign feeling. This feeling was intensified by Italian invasion and the subsequent

success of the Abyssinian forces under King Menelik near Adowa in 1896 when they practically exterminated the Italian force. French interests are the most important and the French manage the posts, the telegraphs and the railway from their port of Djibouti in French Somaliland to Addis Ababa, the capital of Abyssinia (metre gauge). This railway absorbs most of the export trade of the country.¹

In 1906 an agreement was reached between France, Great Britain, Italy, and Abyssinia, by which the three European Powers undertook to respect and preserve the integrity of the country, and to abstain from intervention in its internal problems. At the same time it was agreed that railways in the future built in Abyssinia west of Addis Ababa should be constructed by Great Britain, and Great Britain's right to construct a railway across the country from British Somaliland to the Sudan, was also recognised. This railway would probably run from Berbera to some point in the neighbourhood of Sennar, south of Khartum.

The chief means of communication are the railway from Djibouti to Addis Ababa, and the various rivers which flow from the central watershed. These rivers are generally in themselves useless for navigation; even the larger ones like the Atbara, Hawash and Blue Nile, are torrents after the rainy season, and dry up to pools at other parts of the year. The river valleys, however, are the natural routes for the movement of commerce and troops, and the main points of entry from Abyssinia into the Sudan can be found on the map by a study of these rivers and their tributaries.

Communications in Abyssinia

Another element of importance is the religion of the country which is a primitive form of Christianity. Mohammedanism has made little headway, so that the various religious crusades and secret societies of North East Africa have not obtained a large measure of support in Abyssinia. This has been to the advantage of ourselves, as well as France and Italy, by limiting the area of religious unrest.

Lake Tsana in Abyssinia is of great importance as the source of the Blue Nile, which brings much of the flood water for irrigation to Egypt and the Sudan. Various projects to increase and regulate this flood water supply by lowering the sill of the Lake and building a dam have been delayed for many years, partly owing to the fear of the Ethiopian that economic interference in Abyssinia would be followed by political interference. In 1927 the Abyssinian Government decided to build the dam and proceeded to obtain an estimate for the work from an American engineering firm (the White Engineering Corporation), but no work has actually been carried out. It should be noticed, in this connection, that Abyssinia agreed, by treaty in 1902, "not to construct, or allow to be constructed, any work across the Blue Nile, Lake Tsana, or the Sobat, which would arrest the flow of their waters into the Nile, except in agreement with the Governments of Great Britain and the Sudan."

Lake Tsana Scheme

¹ In August 1928 an Italian-Abyssinian agreement was signed by which Italy leased a port, Assab, in Eritrea to Abyssinia, and arrangements were made for the construction of a road from this port to Dessie, north of Addis Ababa.

CHAPTER XV

THE MIDDLE EAST

*Turkey and
the Moslem
World*

THE Asiatic possessions of Turkey in 1914 consisted of Asia Minor, Syria, Palestine, the three vilayets of Basra, Baghdad and Mosul which comprise Iraq, and the coastal strip of Arabia which is now the Hedjaz. In addition to this territory she claimed overlordship over the remainder of Arabia, except in those regions such as the Aden, Oman and Kuwait Protectorates where British influence was paramount. Outside Asia Minor, Syria and Palestine her political control was in reality slight, and only maintained by occasional punitive expeditions, by a policy of subsidies and by playing off inter-tribal jealousies.

Yet in a sense, Turkey was, as she claimed to be, the natural leader of the Moslem world. Possessing the comparatively fertile crescent of land round the northern part of Arabia, she controlled the pilgrim routes by land from Europe to Asia and Africa. Her occupation of the Hedjaz with its two holy cities, Medina and Mecca, sacred to the Sunni Mohammedan, and of Iraq with its city of Kerbela, sacred to the Shiah, though not completely effective in either case, lent weight to her claim. Annually these holy places were visited by pilgrims from all over the Moslem world, who thus made Turkey in Asia the meeting place for an exchange of views between influential Mohammedans from places so widely apart as India, the Malay States, Morocco, and Zanzibar.

Further, the geographical position of Asia Minor and Turkey in Europe, like a spearhead cutting across one of the most important sea gateways of Europe, thrust her into European politics, and made her the only Mohammedan country with any degree of political education.

On the other hand, this geographical position, facing both ways towards Europe and Asia, provided her with problems

with which she had neither the resources nor the strength to deal. A common religion was not a strong enough bond to hold together her unruly possessions without an effective force behind it, especially as those possessions were peopled by intensely individualistic Arab communities, who might be willing to see in Turkey or elsewhere a spiritual head, but had always refused to offer more than a nominal allegiance (except under force or subsidy) to any temporal control.

Thus when the Great War broke on the Moslem world, these Arab communities did not all adhere to their overlord but took sides, some with the Allies and some with Turkey. The Sheriff of Mecca threw off his allegiance, revolted in 1916, and declared himself King of the Hedjaz.

During the course of the operations in Palestine and Mesopotamia a number of political events occurred which were to have a bearing on the future history of Palestine and Syria. On November 2nd, 1917, a statement of policy with regard to Palestine, known as the Balfour Declaration, was issued by the British Government, and ran as follows:—"His Majesty's Government view with favour the establishment in Palestine of a national home for the Jewish people, and will use their best endeavours to facilitate the achievement of that object, it being clearly understood that nothing shall be done which may prejudice the civil and religious rights of existing non-Jewish communities in Palestine." Meantime negotiations had taken place between France and Great Britain and an agreement (the Sykes-Picot agreement) had been reached which gave France permanent rights in Syria and Great Britain the right to remain in Palestine. This agreement was confirmed (in a modified form) by the Treaty of Sèvres at the conclusion of hostilities, by which Great Britain was appointed the mandatory power for Palestine and Iraq, and France for Syria.

No sooner was Turkey to all appearances dead, and buried by the Treaty of Sèvres (1919), than she began to reappear again. The dissensions between France and Great Britain, the French-Angora agreement of 1921, the defeat of the Greek Armies, their retreat to Smyrna, their evacuation of that city (1922) and eventually the treaty of Lausanne were stages in her reappearance. By the treaty of Sèvres, Turkey in Europe had ceased to exist except for Constanti-

*The rise of
Turkey after
1919*

nople and a narrow strip of land adjoining it. Turkey in Asia had been reduced to the Anatolian peninsula in which there were few roads and railways, where the only means of communication were the valleys running down to the coast, and the most important port of which (Smyrna) at the end of one of these valleys was under Greek control. By the treaty of Lausanne (1923) she got back her Thracian boundary of 1914 except for a few deviations of minor importance. In Asia she re-acquired Smyrna and all the islands within three miles of the Turkish coast except where otherwise allotted. On the other hand, she renounced her rights and titles in Palestine, Syria, Egypt, the Sudan, Cyprus and Iraq, and agreed that the disputed northern boundary of the last named country should be settled by friendly agreement with Great Britain, or alternatively, that the question should be referred to the League of Nations.

PALESTINE

Boundaries The boundaries of Palestine on the north and south are chiefly artificial and run irrespective of any prominent physical features. The country is separated on the north from Syria by a line running from the Mediterranean coast, half way between Tyre and Acre, eastward and then northward to Metulla (British) and across the Upper Jordan Valley to Banias (French); thence south along the foothills to the eastern shore of Lake Huleh and down the left bank of the Jordan and eastern shore of Lake Tiberias to Semakh. From Semakh it runs to El Hamme, whence it follows the River Yarmuk. The boundary on the east, separating Palestine from Transjordan runs southward through the centre of the Jordan Valley and Dead Sea. The southern boundary is a line from a point just west of Rafa to the head of the Gulf of Akaba.

It consists of three distinct regions :—

Physical Features

- (1) A narrow coastal plain about 100 miles long interrupted by some higher ground at Mount Carmel. This coastal plain has been for many centuries the most important bridge between Europe, Asia and Africa. The lines of communication in Palestine mainly run along it, and

on it lie the more flourishing towns and ports. North of Mt. Carmel there is the Plain of Esdraelon extending inland from Haifa to the Jordan Valley.

- (2) Beyond the coastal strip rises the plateau of Judaea, round Nablus, Jerusalem, Bethlehem and Hebron.
- (3) Beyond the plateau of Judaea, towards the east there is a deep and sudden drop to the depression in which are the Jordan and Dead Sea. This great valley starts in the north near the Lebanon and extends south as far as the Gulf of Akaba. It reaches its lowest point at the Dead Sea, the surface of which is 1,300 feet below sea level.

Beyond the Dead Sea depression and before the Syrian desert is reached, is the plateau of Hauran rising to about 2,000 feet above sea level. It has rich soil and its wheat fields and pastures are of exceptional fertility. South of the Hauran is Gilead, which rises to 4,000 feet and is noted for its herds, orchards and vineyards. South of Gilead in turn is Moab, a region of sheep and cattle pastures. These three regions, lying between Palestine and the desert, are incorporated in the Arab state of Transjordan under British protection.

The climate of Palestine is of the Mediterranean type, but varies with the altitude. The coastal region is sub-tropical and humid : the plateau of Judaea drier and more temperate : the Jordan valley is very hot with small rainfall. Thus, on the coastal plain the temperature runs from 57 deg. to 84 deg. ; on the plateau from 43 deg. to 73 deg., and in the Jordan Valley from 70 deg. to 130 deg. The summer months are almost rainless, practically all the rainfall (16-27 inches) occurring between November and April. Water for domestic use is obtained chiefly from cisterns cut out of the rock in which rain is collected. In rural districts wells often of doubtful character are used. Jerusalem has a pipe supply, pumped from the Pools of Solomon near Bethlehem by an installation constructed by the Civil Administration.

The resources are almost entirely agricultural. Oranges, wheat, barley, millet, and olives are grown, but the country, particularly the plateau, suffers from lack of water. Various projects have been suggested from time to time to relieve this

difficulty. A scheme has been suggested for turning into the valley lands of northern Palestine some of the water from the head waters of the Litani River and its tributaries, but this would require the sanction of the French through whose territory the Litani flows. Various schemes are also under consideration for production of hydro-electric power by utilising the considerable drop in the Jordan ; and a company is undertaking a project for obtaining various valuable salts from the Dead Sea.

*Population
and Govern-
ment*

The total population (1927) exclusive of Transjordan is about 900,000 of whom 650,000 are Mohammedans, 150,000 Jews and 75,000 Christians. The Jewish element is consequently a small minority, and any attempt to make Palestine a Jewish state would be bitterly resented and opposed by the non-Jewish elements. In this connection it may be noticed that the terms of the Balfour Declaration do not suggest that Palestine should be made *the* national home for the Jews, but provide that *a* national home for the Jews should be made in Palestine. This distinction is important as round it revolve most of the political controversies in the country.

Racial and religious antagonisms between the Jewish and Moslem communities are so strong that the prospect of Palestine becoming a self-governing nation is very remote. The intention is that the Government should consist eventually of a High Commissioner as head of the Executive and a Legislative Council to be partly elected and partly nominated. But this assumes a state of settled progress which has not yet arrived, and has therefore not been introduced up to the present.

Transjordan, which is purely Arab, comes within the Palestine mandate and as such is under British control. It is regarded, however, as distinct and is ruled by the Emir Abdulla-ibn-Hussein, second son of the late King of the Hedjaz, assisted by a British Adviser, who is in close touch with the High Commissioner for Palestine.

*Communica-
tions in
Palestine*

The important ports of Palestine are Haifa and Jaffa, though Acre and Gaza can be used by small vessels. The lines of railway are :—

- (1) The railway from Egypt, running via Kantara, El Arish, Rafa, Ludd, Tulkeram, Haifa, 258 miles. Standard gauge.

- (2) Rafa, Beersheba. 37 miles. Standard gauge.
- (3) Jaffa, Ludd, Jerusalem. 54 miles. Standard gauge.
- (4) Haifa, Afuleh, El Hamme. Narrow gauge.
- (5) Haifa, Acre. 11 miles. Narrow gauge.
- (6) Afuleh, Jenin, Nablus, Tulkeram. 50 miles. Narrow gauge.

All the railways are worked by the Palestine Government.

East of Haifa the Palestine railway system terminates at El Hamme and the section El Hamme to Deraa is operated as part of the Hedjaz railway and is controlled by the French Government.

The motor road used for traffic between Jerusalem and Amman, and the Hedjaz railway from Deraa to Maan run through Transjordan. The air route from Cairo to Baghdad also traverses the country, and there are aerodromes at Gaza, Ziza near Amman, and Kasr-el-azrak.

The Imperial importance of Palestine arises out of its situation as a nodal country where present and projected routes connect European, Asian and African lands. Moreover, it is an unsettled land which might be occupied by some other Mediterranean Power, should British occupation come to an end, and if this were the case the security of the Suez Canal would be impaired, particularly if that Power were in alliance with a hostile Egypt. It is also a land through which future railway communications to the East may be constructed, joining the Mediterranean ports such as Haifa with the Iraq railway system and eventually extending to India. The future oil pipe lines from the various Iraq oil fields will probably cross its territory and enhance the importance of its ports; and the development of the potash and other basic chemical resources of the Dead Sea may make it a world source for these important commodities.

IRAQ

Iraq extends over the plain of the rivers Euphrates and Tigris, the home of the ancient civilisations of Assyria and Babylon, and comprises the former Turkish *vilayets* of Mosul, Baghdad and Basra, with a total area of about 117,000 square miles. Its eastern boundary coincides with the old Turkish-Persian boundary, which in the northern part runs through and in the southern part skirts the mountains forming the edge

of the Persian plateau. On the north its province of Mosul marches with Turkish Kurdistan, from which it is separated by the "Brussels line." It is separated from the French mandatory region of Syria by straight lines joining Rumelan Kem to Abu Kemal and thence to Imtar. The west and south-west boundaries are formed by straight lines among oases in the Arabian and Syrian deserts. On the south it is bounded by Kuwait and the Persian Gulf.

Following the war, by the Treaty of Sèvres (1920), Iraq was recognised as an independent State, and was placed under the mandate (class A) of Great Britain, until such time as it should be ripe for complete self-government. The central Government was vested in King Feisal, third son of the late King of the Hedjaz, assisted by a cabinet of ministers and advised by a British High Commissioner. Shortly after King Feisal's election in October, 1922, Great Britain and Iraq entered into Treaty relations, by which the British Government undertook to have the frontiers quickly delimited, and to use its good offices to secure the admission of Iraq to membership of the League of Nations. In all important matters, whether international or financial, Iraq agreed to be guided by the advice of the British High Commissioner and as a condition for membership of the League to carry into effect the "organic law" which provided for a limited monarchy consisting of the King, a nominated senate of "elder statesmen" and an elected Legislative Assembly. By a protocol of April, 1923, it was agreed that this Treaty should come to an end upon Iraq becoming a member of the League of Nations, and in any case not later than four years after the ratification of peace with Turkey. The settlement with Turkey was concluded by the Treaty of Lausanne in 1923, to be ratified in 1924, so that all direct British responsibilities in Mesopotamia would have ceased in 1928. The Treaty of Lausanne, however, did not decide the question of the northern frontier of Iraq, but left it for settlement later. The final decision of the League of Nations (1925), that the "Brussels line" should be the boundary between Iraq and Turkey, provided Great Britain continued as mandatory for 25 years or until Iraq should itself become a member of the League, extended our responsibilities for a further period.¹ In 1929, however, it was

announced that Great Britain will request permission for Iraq to become a member of the League in 1932 ; and if that is granted it is possible that the British garrison may then be removed, and Iraq may become an independent State.

The greater part of Iraq consists of the rich alluvial plain of the Euphrates and Tigris, flat, completely stoneless, and for the most part treeless. The slope on this plain is so gradual that between Basra and Baghdad, a distance of 350 miles, the ground only rises about 100 feet. To the north and the north-east of Baghdad the country changes in character, and becomes more undulating until Mosul is reached, when it becomes broken by the spurs of hill ranges, except in the valley of the Tigris itself. *Physical Features*

The climate is of the Mediterranean type, *i.e.*, with winter rains and summer droughts, but the variations in temperature are much more pronounced than in the Mediterranean lands. Thus, during the hot months (June to September) the temperature may rise as high as 130 deg., and the average for August in Baghdad is 93 deg., while from October to March the weather is cool or at times even cold, the average for January being 49 deg. The rainfall (8-15 inches) is confined to the winter months, so that the irrigation of the land and the water supply depend almost entirely on its two great rivers which receive their constant supply from the drainage of the mountains to the north, and their flood supply in April when the snow melts on these mountains. On these occasions the river often bursts its banks and hundreds of square miles are inundated. *Climate*

The census of 1920 shows the total population of Iraq as 2,850,000 of which about 2,500,000 are Arabs and Kurds, the remainder being Jews, Assyrians, Chaldeans and Nestorian Christians. The Arabs can be divided into Bedawin, Fellahin and Marsh Arabs ; the first mentioned being nomads, the second the settled cultivators, and the third a compromise between the other two, being the cultivators who are not settled in one place, but move in the marshes of the lower Tigris *Population*

¹ In June 1926 a Treaty was signed and ratified between Turkey and Great Britain (on behalf of Iraq) which fixed the Brussels line with a very slight deviation as the boundary. A demilitarized zone on each side of the boundary line was also agreed on ; and Turkey is to receive 10% of the royalties paid to Iraq on oil produced in the Mosul area.

and Euphrates. All three types of Arab are Mohammedans, those in the valley of the Tigris to the south and west being chiefly of the Shiah persuasion, while the remainder belong to the Sunni variety. Christians and Jews are found only in the towns.

*Communica-
tions*

(a) *River*

The main line of communication in the country is the Tigris. Ocean-going steamers can go as far as Basra, 70 miles up the Shatt-el-Arab,¹ and small draught steamers can get as far as Baghdad at all times of the year. The Mesopotamia Persia Corporation (Lynch's) and certain native firms run the steamer services between Baghdad and Basra, the journey up stream taking about ten days and down stream from four to six days, according to the strength of the current. The Euphrates is only navigable for very shallow country vessels. There are pontoon bridges at Mosul, Baghdad and Amara across the Tigris and the Euphrates is bridged at Qurna, Nasariyeh, Samawah, Jerbuyieh, Hillah, Hindieh, Felujeh and Ramadi.

The tributaries of the Tigris are not navigable except for vessels of very shallow draft in the flood season. This applies also to the Hai which connects the Tigris and Euphrates between Kut and Nasariyeh.

The Karun is navigable from the sea as far as Ahwaz.

(b) *Roads*

There are no real roads, except at Basra and Mosul, and a few now round Baghdad. Roadmaking is practically impossible owing to the stoneless nature of the plain, but many well-defined tracks exist which are fit for the movement of men and transport in dry weather. In wet weather these tracks become almost impassable for artillery and heavy wheeled transport. The most important are the Baghdad to Basra road along the Tigris, the road from Baghdad to Ramadi on the outskirts of the Arabian desert and the road from Baghdad to Samara and Mosul. Also a metalled road runs from Karaitu to Tehran *via* Kermanshah, Hamadan and Kazvin, with a branch from Kazvin to Enzeli. This is the most important route across the Persian frontier.

(c) *Railways*

Baghdad is the railway junction of Iraq. From it the following lines radiate :—

(1) Southwards to Basra via the Euphrates (metre gauge) ;

¹ The draught of vessels proceeding to Basra is limited by the bar at Fao which only gives 19 feet clearance at high water. Another difficulty is the occasional bar which forms below the junction of the Karun with the Tigris.

with branches from Ur Junction to Nasariyeh, and from Iskanderiyeh to the Hindieh Barrage across the Euphrates.

(2) Northwards to Shergat (standard gauge) 75 miles south of Mosul.

(3) Eastwards to Qaraghan; ¹ from which branches run to Khanikin Road on the Persian frontier, and to Kirkuk (metre gauge). This latter branch will serve for the movement of grain from that country, and will also be of strategic importance for the movement of troops to an important position in a disturbed area. In time, it will probably be extended further to Mosul.

It may be noticed, also, that the Constantinople-Baghdad railway has been completed as far as Nisibin 200 miles to the north-west of Mosul, so that the total gap to bridge at present is Nisibin to Shergat, 275 miles.

The air route between Cairo and Baghdad has already been described. A regular motor route from Baghdad to Beirut, is maintained by the Nairn Transport Company, which does the complete journey in two days.²

*(d) Air and
Motor
Transport*

The chief resources of the country are agricultural. Wheat, *Resources* barley, rice, dates, figs, almonds and peaches all grow in its fertile soil, provided a water supply by irrigation is assured. The building of barrages, like the Hindieh Barrage, and the canalising of the plain are essential to its development. Given peace, capital for the necessary irrigation, a larger and more settled population and better means of transport it might become again, as it was in the past, one of the most fertile regions of the world. Its potential oil resources are also very great. Oil wells exist at Qaiyarab near Mosul, and at Mandali and Khanikin north-east of Baghdad, both the latter being part of the Turkish concession to the Anglo-Persian Oil Company and at Hit also, on the Euphrates, oil is found in addition to the huge asphalt deposits which exist there. The full development of these oil resources must await the construction of a pipe line for its transport to either Haifa or Beirut.

¹ The right and left bank railway systems at Baghdad are connected by a wagon ferry.

² Recently owing to the unsettled condition of Syria the route followed is *via* Ramadi and Amman to Haifa.

*The
Mosul
Frontier*

The vilayet of Mosul, as far north as the "Brussels Line," now included in the Kingdom of Iraq, is economically and strategically necessary for the development and safety of the country. Apart from racial considerations, without this province, Baghdad and Basra would lack their most important food source and the potential oil supplies which lie in the rolling country round and to the north of Mosul; the frontier would run across a level plain without any natural obstacle to aid defence, and the Assyrian tribes which provide excellent local fighting material would be completely transferred to Turkey. Further, owing to the southward trend of the natural avenue of communication, by the Tigris, the markets for the produce of the Mosul province are in Baghdad and Basra, and not across the difficult mountain ranges to Turkey in the north. A severance of Mosul from the two southern vilayets would, therefore, be economically and strategically unsound, and would merely store up trouble for the future.

The "Brussels Line" provides on the whole a natural frontier. Only on the north-west, where it follows partly the course of the rivers Khabur and Hezil does it leave the hills. It is further protected by a lack of road communications from the north. No road fit for heavy motor transport runs towards the frontier from Diarbekr, the nearest important Turkish Military Garrison, and such roads as are suitable for wheeled transport are out of action from November until late in Spring, when the snow has melted. The only rail communication from Turkey in the direction of Mosul is the line which terminates at Nisibin some 50 miles to the west of the boundary, and this line, it should be noticed, passes for 190 miles through Syria, which is a French Mandate, while the shortest route by road from the railhead at Nisibin to the town of Mosul passes through Syria also. Turkey, shorn of Syria, is therefore greatly handicapped in the movement of men or of heavy material towards the Mosul frontier, and the occupation of Syria by France as a mandatory for the League of Nations makes possible a landing of allied troops at Alexandretta and an attack on Turkish lines of communication which would prejudice Turkish operations to the north of Mosul. Cyprus, under such circumstances, would probably play an important part as a base of operations.

The railheads for Iraq, in case of trouble on a Mosul front, are Shergat, 70 miles south and Kirkuk, 80 miles south-east of Mosul. In course of time, a line will probably be constructed from Kirkuk to Mosul, but the probability of any connection with the Turkish system at Nisibin is more remote. Isolation from Turkey in the north, and the development of communications, southwards to the Persian Gulf and westwards to ports on the Mediterranean in Syria or Palestine, would appear to be a policy more suited to the economic and strategic needs of both Iraq and Great Britain, whose interests in preserving Iraq inviolate from Turkish or Russian penetration are identical.

The chief internal military problems of Iraq arise out of the *Kurds* character of the inhabitants and the character of the country. The first problem may disappear to some extent with the growth of political institutions among the Arabs, but the Kurds of Southern Kurdistan will be more difficult to bring under effective control. Semi-nomadic in type they dwell in the winter in villages on the plains to the east of the Tigris, in the summer migrating to the higher land near the Persian frontier. By custom and disposition they are turbulent and unruly, and prone to obtain their means of existence by plundering settled villages and exacting heavy tolls from caravans passing through the mountain gateways of the north and east, which they are in a position to control. The Treaty of Sèvres (1920) between Turkey and the Allied Powers made an attempt to solve this problem by providing for the institution of an autonomous Kurdistan, provided the Kurds should express to the League of Nations a desire to be independent, but the question still remains unsettled, owing to the disturbed nature of the country, and its inaccessibility due to a lack of roads.

The most obvious military characteristics of Iraq are *Character of Country* those relating to supplies, movement and transport. Practically all supplies for the maintenance of an army in the field must be transported by sea to Basra except meat, which is fairly plentiful. Movement of these supplies and of troops is chiefly restricted to the neighbourhood of the rivers and railways. This is more certainly the case in the summer when a supply of water can only be obtained from the rivers, as the well water in towns or villages must be

used with great caution on hygienic grounds. Roads and tracks are practically impassable for wheeled transport and artillery after a fall of rain. The flatness of the country provides little cover, and opportunities for surprise are of the smallest. Aircraft, however, can land almost anywhere and observation by means of aeroplane is particularly good, though the mirage is a great difficulty. Tanks have few obstacles to cross, but are of little value in the summer owing to the extreme heat. It is thus a country where infantry and artillery are confined to a few definite routes, and where surprise must be accomplished rather by speed of movement than by making use of the ground. Aircraft and armoured cars have consequently played a large part in all recent operations there.

*The Forces
in Iraq*

The Imperial garrison in Iraq, consisting of aircraft and auxiliary forces, is administered by the Officer Commanding Royal Air Force, and is under the control of the Air Ministry by an arrangement brought into operation on October 1st, 1922.

Besides the Imperial garrison, there are the Iraq Levies, an Auxiliary Force composed chiefly of Kurds and Assyrians under British officers and the Iraq Army which is officered entirely by Arabs with some British advisers.

*The Imperial
Importance
of Iraq*

The Imperial importance of Iraq, apart from its potentialities as a future wheat, cotton and oil producing country is fourfold.

(1) One of our principal sources of oil for the navy is the Maidan-i-Naphtun field in south-west Persia. Its security and the security of the pipe line to Abadan depend on a control of southern Iraq, the chief lines of approach being those through Basra and Amara. This importance will be increased if at some time in the future the projected railway to Haifa or Beirut from Iraq be built, and pipelines constructed alongside it to transport oil from the Mosul, Khanikin and Persian fields direct to the Mediterranean, in order to save about 4,000 miles in distance and the costly dues of the Suez Canal.

(2) British naval security in the Indian Ocean depends on our possession of the head of the Persian Gulf with its future terminus of the European-Basra line, or at least on its being in the hands of a friendly and non-naval power.

(3) At some time in the future, the Indian system of railways will probably be connected with the Iraq system near Basra, either by extending the Nushki-Duzdap line through southern Persia, or by running a line from Karachi round the shore of the Persian Gulf. In either case an important junction with the Iraq lines will probably be at Basra.

(4) Our Imperial air route to India and Australia passes over Iraq, and Ramadi, Baghdad and Basra are important aerodromes on this line of communication.

THE STATES OF MODERN ARABIA

Situated near the most important land bridge of the old world, Arabia has produced a race and religion which spread over Southern Asia from Mecca to the Malay States, over Northern Africa from Egypt to Morocco; southwards from the Mediterranean to the Zambezi; and even into Europe itself to occupy Spain for a time and almost to conquer France. The secret of the amazing expansion of the inhabitants of a comparatively inhospitable land lay partly in the weakness of their enemies, partly in the driving power of a new religion and in no small degree resided in the centrality of their position. This central position and the fighting spirit of the religion still remain to make Arabia the source of movements which can trouble the world in general and the British Empire with its great Moslem population in particular. The problems of Arabia are therefore not confined to her own narrow fertile fringes and desert plateau. Their echoes are felt in some measure in India, in Africa, and even in the Far East, in fact wherever the pilgrim from Mecca and Medina finds his way.

This home of the Moslem faith is a quadrilateral-shaped plateau, as large as France, Germany, Spain and Italy combined, tilted so that its highest points are on the range of mountains running parallel to the Red Sea, and so that the slope from this western edge to the Persian Gulf is long and gradual. It consists of (1) a coastal plain varying in width and fertility from the highly productive lands of Asir and Yemen to the almost deserted regions of Hadramaut; (2) the desert and steppe lands of the interior; and (3) a central

core 400 feet high, known as the Jebel Tauwaik, containing four important groups of oases : (a) El Jauf and the Wadi Sirhan on the edge of the Syrian desert, (b) Jebel Shammar (capital, Hail), (c) Kasim (chief towns, Aneysa and Bereida), (d) Nejd (capital, Riyadh).

This peninsula has for many centuries been parcelled out into native principedoms, whose boundaries are undefined and whose real areas of influence are limited to much narrower domains than they claim. Outside their actual spheres of influence is the wandering Bedouin, owning no overlord, except when it suits his convenience to do so.

The most important of these Arab states are :—

- (1) The Emirate of Nejd (capital, Riyadh) and El Hasa came into existence through the crusade of a Mohammedan puritan revivalist of the eighteenth century, one Mohammed Abd-al Wahāb, and the organising ability of Mohammed ibn Saud, the Sheikh of Deraya. The converts of the puritan movement, opposed to all forms of "idol worship," calling themselves Wahabis, with all the fervour of a new religious force pressed outwards from time to time, gained rapid and frequent successes over the less virile peoples of the coastal fringe, and when defeated by Turks and Egyptians returned back to their almost impregnable base on the line of central oases. This chequered national career was pursued for over a century : but since the war, as a result of his campaigns, Ibn Sa'ud, the present ruler of Nejd, obtained control of Mecca and Medina in addition to the oases of Kasim and El Jauf and has a considerable degree of control over El Hasa, also.
- (2) The Emirate of Jebel Shammar is now under the control of the Emirate of Nejd. Its position is even more notable than that of Nejd, as it consists of those oases which are half-way on the shortest road from Shiah holy cities, Kerbela and Nejef, to the Sunni cities, Medina and Mecca. Hail, its capital, is a necessary halting place for the pilgrim caravans to and from those cities in their passage through the desert, and is thus in constant touch with the affairs of the Moslem world of Asia and Africa.

- (3) The Kingdom of the Hedjaz (population, 1,000,000), which contains the two holy cities of Mecca and Medina and the two pilgrim ports, Jeddah the port for Mecca, and Yanbo for Medina, arose from the Sherifate of Mecca with British assistance in the first few years of the war. Its late king, Hussein ibn Ali, Sheriff of Mecca, in 1916, with British moral support, declared himself king of the Hedjaz and later of the Arab nation. However, in 1923, Hussein's misrule in Mecca attracted the attention of the Wahābi leader, Ibn Sa'ud. The latter attacked him and in 1924 finally ejected him from this holy city, and Hussein thereupon abdicated in favour of his son Ali. Following the capture of Mecca and Medina by the Wahābite forces, Ali in turn was ejected and the Hedjaz is now directly under the control of Ibn Sa'ud, Sultan of Nejd, who has been declared king. Apart from a few scattered oases and a narrow coastal fringe, it is an unproductive region dependent largely on the pilgrim traffic to the holy cities for its economic existence.
- (4) South of the Hedjaz is Asir (population, 1,500,000). The Sheikh Idrissi of Sabia is the only powerful force in this region, but his effective rule is practically confined to Sabia itself. The Idrissi teachings are of a puritan type, similar to the Wahābite, and Asir has recently placed itself under the suzerainty of Ibn Sa'ud.
- (5) Yemen (population, 1,000,000) is the most settled, populous and cultivated part of Arabia. The majority of the inhabitants live in villages, and the land is more carefully cultivated than in other parts of Arabia. The Imam of Sanaa, who remained loyal to the Turks during the war, is the most influential ruler in this region, and is the spiritual and temporal head of the Zaidi faction of Mohammedans who dwell in the highlands of Yemen. Some of the export trade from Yemen flows through a harbour at Hodeida, but most of it passes through Aden. The Zaidi sect are strongly opposed to Wahābite beliefs, and the antagonism which exists between Asir and Yemen has a strong religious basis.
- (6) At the south-west corner of Arabia is Aden, consisting

of the peninsula and isthmus of Aden proper, Sheikh Othman with the surrounding district and Little Aden peninsula, together with the treaty tribes of the Aden Protectorate, of which the most important are the Sultanate of Sheher and Mokalla and the Sultanate of Lahej. Hadramaut, the least fertile part of the coastal fringe is a British sphere of influence.

- (7) Oman (500,000) is the most important and potentially wealthy part of the peninsula after Yemen. The rule of the Sultan of Muscat, though he claims an overlordship over the whole of Oman, extends in fact only over the coastal region round Muscat itself. As far as effective government can be said to exist, Oman is a British Protectorate. Muscat is a British port of call, where the Indian Government maintains a postal and telegraph office. Close relations have existed for years between it and the Government of India, there is a British Political Agent and the trade of this portion of the Arabian coast is mainly in the hands of Indian traders.
- (8) The Bahrein Islands, 20 miles off the coast of Arabia, noted for their pearl fisheries, rice, coffee and sugar are a British Protectorate with a British Political Resident.
- (9) The Pirate Coast is the southern part of the Persian Gulf coast between Oman and El Hasa. Originally it was famous as the home of pirates and slave traders; and early in the nineteenth century when Great Britain began to police the Gulf there were frequent naval encounters. Between 1835-56 many treaties were made with the Arab chiefs of the locality to maintain the peace, regulate or abolish slave traffic and bring piracy to an end. The result was a union of the principal Arab tribes of the region, called the Trucial League. The chiefs of these tribes, known as the Trucial Chiefs, deal with a British Political Agent at Sharja, and the whole region can be regarded as a sort of British semi-Protectorate.
- (10) The Sultanate of Kuwait at the north-west corner of the Persian Gulf is under British protection, has a British Political Agent, and is subsidised by the British Government. It is chiefly important because it possesses the

best natural harbour on the Persian Gulf, a stretch of 20 to 30 square miles of deep water almost completely landlocked.

COMMUNICATIONS IN ARABIA

In addition to the many tracks and unmetalled routes in the coastal fringe, the pilgrims' ways across the desert joining Nejef and Mecca via Hail, or Kuwait to Mecca via Boreida are the most important. *Communications in Arabia*

Apart from a military railway built from Aden to Lahej, the only railway in the peninsula is the Hedjaz line from Ma'an to Medina (525 miles). It is a single line (1·05 metres) laid so badly, with insufficient sidings and stations, bad gradients and sudden turns, that even in normal times it is seldom completely in working order. At present, trains only go south of Ma'an at infrequent intervals, and the permanent way is always liable to damage which cannot easily be repaired. *The Hedjaz Railway*

Proposals for other lines in Arabia have been made from time to time, but have not matured. The most important of these projects was a plan to continue the Hedjaz line from Medina to Aden, to tap the productive regions of Yemen and Asir, and possibly form a fast mail route to the Indian Ocean. Another scheme proposed to make a line from Suez via Akaba and El Jauf to Kuwait, thereby creating a fast route from Egypt to Iraq and Persia. Neither of these proposals could be commercial successes. The volume of trade would be small, the cost of construction and maintenance would be abnormally high owing to scarcity of supplies and water; and the cost of guarding the railway, when once built, or of subsidising Arab tribes to guard it, would be prohibitive.

PROSPECTS OF MOSLEM UNITY

The Moslem population of the world is about 220 millions, of which 67 millions are in India, 43 millions in Malaya and the East Indies, and 25 millions are in the Sudan and East Africa. They are spread over an area which stretches from Nigeria to the Philippine Islands and from Albania to the Zambezi. They encircle the Caspian; they inhabit one shore

of the Mediterranean and both shores of the Red Sea, and they have considerable outlying sections as far north-east as China (7 millions).

Unity of aim over this vast area is as humanly impossible, as unity of aim is throughout the Christian races of the world. Further, the populations of these regions are mainly agriculturists, rooted to the soil, and mineral resources with the exception of tin and oil are rare and undeveloped. Great arms of the sea break the continuity of the Moslem lands, and none of these, with the possible exception of the entrance to the Black Sea, are under the control of a Mohammedan country. Nor is there unanimity with regard to matters of faith or spiritual leadership, and the question of the Kalifate, or temporal and religious headship of the majority of the Mohammedans, held until 1924 by the Sultans of Turkey, is illustrative of this lack of unity.

Indeed, unanimity throughout the Moslem world on this question of a religious and temporal head is not likely to be reached, because of the various creeds strongly held by the various sections. Thus the Mohammedans of Turkey and Egypt are Sunnites; those of Persia are Shiah; in India both Sunnites and Shiah are represented; in Afghanistan, those south of the Hindu Kush are mostly Sunnites and those north mainly Shiah. Iraq is partly Sunni and partly Shiah. Arabia is now the home of the Wahābite creed; and parts of north Africa are of the Senussi confraternity.

Of these, the Sunnites believe in the authenticity of the first four Kalifs who succeeded the Prophet Mohammed and of the whole line of the Kalifate down to the last Sultan of Turkey. They consider Mecca and Medina to be the Holy Places of the Moslem faith. The Shi'ites or Shiah, on the other hand, deny the authenticity of the first four successors of Mohammed, and acknowledge no spiritual head, though they consider the Shah of Persia their temporal head. Their holy places are Kerbela and Meshed. The Wahābites are orthodox in their belief and acknowledge the line of the Kalifate but regard the Moslem faith as having gathered many idolatrous accretions from which it should be purged. The Moors of Morocco, though Sunnites in belief, acknowledge the Sultan of Morocco as their Kalif, while the Senussi of the Sahara acknowledge

no head except the leader of their own confraternity. The intensity of feeling displayed over these differences of belief is such that any union of the Mohammedan countries to defy European penetration is remote. The Mohammedan University of El Azhar at Cairo, which is the academic seat of Koranic learning, and a yearly Moslem congress at Mecca are, however, important binding links between many of the different varieties of belief.

The more real and immediate problems, associated with Mohammedanism are the ever present dangers of isolated religious movements which might take a serious political aspect. A Jihad or Holy War on the North West Frontier might, though it is unlikely, draw all the Pathan tribes into an alliance against us, and might even extend further into Afghanistan and India. The rise of another Mahdi in the Sudan, claiming to be that descendant of Ali, the son-in-law of the Prophet, of whom Mohammed prophesied that he would consolidate all Islam and rectify all wrongs, might have serious effects in Egypt and the Sudan and indeed throughout most of Africa.

But perhaps the most perturbing features of the eastern and African world of to-day is the remarkable growth of powerful confraternities or religious societies among the Mohammedan populations, particularly of Africa. These societies are largely missionary in aim and partly military in spirit. They have extended Mohammedanism at an alarming rate among the negroes of Central Africa, and have provoked trouble on the borders of the French, Italian and British possessions in northern Africa. Of these organisations, the most important is the Senussi founded some eighty years ago, and now having centres in many parts of northern Africa, in Mecca and even in Iraq. Its central stronghold and base is the oasis of Kufra¹ in the Sahara, 500 miles west of the Nile. During the war, the leader of the society, thinking the time opportune to make himself master of the Moslem world, attacked the Egyptian border at Sollum and Siwa, but was defeated and driven back in February, 1917, by British troops. His influence, and that of his society, are always disturbing factors to be reckoned with in Tibesti, around Lake Chad, and on the frontiers of the Sudan, and its gradual advance into

¹ The head of the order now lives at Gedabia on the Gulf of Syrte.

French and British territory in equatorial Africa and Nigeria must be carefully watched. Wherever it goes it brings not merely religious fanaticism but an anti-European spirit, a spirit of colonisation, a trade in slaves and occasionally in firearms also.

THE PERSIAN WEDGE BETWEEN THE EAST AND MIDDLE EAST

Most of Persia occupies a portion of the Iranian plateau which lies between the Armenian and Pamir plateaux, and rises steeply above the Caspian Sea and the plains of Russian-Turkistan. The area of the country is 630,000 square miles; its length from east to west is about 900 miles, and from north to south 700 miles. Not all of the total population of 10,000,000 are pure Persians. In the west, in the provinces of Tabriz, Kermanshah and Khuzistan, the population is a mixture of Kurds, Turks and Arabs mainly nomadic and difficult to control. In the north-east the people are Turkish in origin. Along the coast of the Persian Gulf and Arabian Sea, Arabs mainly predominate. It is only in the centre that there is any considerable proportion of the Persian-speaking race. The majority of the inhabitants are Mohammedans of the Shiah faith, and the country forms, therefore, a religious wedge between the Sunni Mohammedans of the west and the Sunni Mohammedans of India.

General Features of Persia

The plateau of Persia is bounded on the north by the Elburz mountains, 10,000–14,000 ft., on the west and south by parallel ranges which have a general course from north-west to south-east, while running in a south-easterly direction from a region south of Tehran to the Baluchistan border, is the semi-desert land, containing two great arid regions, the Dasht-i-Kabir and Dasht-i-Lut. It is thus a country bordered and traversed by mountains, with few rivers, and difficult either to enter or to cross. Where mountains do not form a barrier there are still the great semi-desert plains which are almost as difficult.

Climate and Resources

Round the Caspian Sea and Persian Gulf there is fairly heavy rainfall in winter; elsewhere the rainfall is very limited, the air clear and dry, but, owing to the altitude, the temperature is not excessive. During the summer the temperature sometimes rises to 110° by day, but the nights are

cool or even cold. The chief agricultural region is that portion of the country which lies north of the Elburz mountains; elsewhere irrigation is generally necessary and when it is carried out, the soil proves rich and fertile. The water for this irrigation is brought from the hills by underground tunnels. The chief commodities which are exported consist of dried fruits, rice, cotton, silk, wool, carpets, and opium. Mineral wealth is probably extensive, but not utilised, chiefly owing to lack of transport.

Persia has been, until the present, practically without rail-roads, and the only railways are :—

*Centres of
Trade and
Trade
Routes
Railways*

- (1) A line from Julfa on the Persian-Russian frontier, to Tabriz, which has a branch to Sharif Khaneh on Lake Urumiah.
- (2) The Baluchistan railway which runs from Quetta to Nushki, and thence through Baluchistan to Duzdap, just across the Persian border. The distance from Quetta to Duzdap is 350 miles.
- (3) A short section of the new Caspian to Persian Gulf railway which is described in a later section.

Air routes are operated by the Junker Company from Enzeli to Tehran, Tehran to Bushire, Tehran to Meshed, and Tehran to Baghdad.

Air Routes

Roads are being improved and the following are used by motor transport, which has now become a very important mode of conveyance in Persia.

Roads

(1) From Julfa on the Persian-Russian frontier, through Tabriz in Azerbaijan, via the Kizil Usen gorge to Tehran the capital (population 280,000), which stands on the southern slopes of the Elburz. The country around Tehran is fertile and it is one of the main junctions of trade routes from the Persian Gulf, Russia and Afghanistan. Here the route from Tabriz meets the routes from Bushire, Bandar Abbas and Meshed.

(2) From the Russian trans-Caspian railway at Ashkabad to Meshed (90 miles). Meshed is also a junction for routes to Herat, India—via Seistan—and Baluchistan. Routes run from Meshed to Bandar Abbas and Charbar on the coast.

(3) The route from Enzeli on the Caspian should be noted. It runs from Resht to Kazvin, where it divides into a route to Tehran and another to Hamadan, the total distances being :—

Enzeli—Tehran, 240 miles.

Enzeli—Hamadan, 280 „ (an old metalled and bridged Russian road).

(4) The chief port on the Persian Gulf is Bushire, from which a route runs by Shiráz to Ispahan—the former capital (520 miles). At Ispahan it branches into two main routes, one to Tehran and the other to Yezd.

(5) From Bandar Abbas there is a route to Nazirabad (700 miles), and another to Kerman (310 miles). Bandar Abbas is also connected to Yezd (300 miles).

(6) Mohammerah, the Persian port on the Shat-el-Arab at the mouth of the Karun river, is another trade centre, from which merchandise can be moved by river as far as Shuster at the foot of the mountains. Steamers can go by the Karun to Ahwaz (70 miles from Mohammerah), where there are rapids.

(7) The western trade route from Baghdad to Tehran runs by railway to Karaitu near Khanikin, and thence via Kermanshah and Hamadan and Saveh to Tehran.

*Foreign
Rivalries in
Persia*

Three powers at various times in recent years have struggled for supremacy in Persia. Germany, in order to forward her "Drang nach Oesten" policy towards India; Russia, which has varied between the policy of constructing a railway through Persia to the warmer seas or through Afghanistan to reach India; and Great Britain, most profoundly interested in the safety of her commerce and the security of the Indian Ocean lands.

Differences between Russia and Gt. Britain were settled temporarily in 1907 by an agreement which made Northern Persia including Tehran a sphere of Russian influence, Central Persia a neutral sphere, and South-East Persia on the borders of Baluchistan, a British sphere of influence. Great Britain thus obtained control over the strip which lies along the outlet from the Persian Gulf, and gained the right to construct a strategic railway from Bandar Abbas to Seistan, which would flank a Russian attack on India by Herat and Kandahar.

Another reason for Great Britain's anxiety with regard to Persia was the scanty supply of oil in the British Empire. In 1914 the British Government purchased control in the Anglo-Persian Oil Company, and increased its holding further in 1917 to £5,000,000, the object being to make certain of sufficient oil at least for the requirements of the navy. The Oil Concession granted by the Persian Government to the Company covers nearly three-quarters of the whole area of Persia, and with it go guarantees of police protection by the Persian Government. Only a portion of the concession has yet been prospected or worked. The main field is at Maidan-i-

Naphtun. The pipe line begins about 48 miles north of Ahwaz, runs along the Karun valley to Wais, where another line joins it ; it then proceeds along the east bank of the river to Mohammerah.

With the creation of a Bolshevik state in Russia, the Anglo-Russian Convention of 1907 was denounced by that country, and in 1919 Great Britain and Persia signed the Anglo-Persian Agreement, by which we were to give Persia a loan, recognise her independence, and reorganise her army and finances. This agreement, however, was not ratified, and lapsed in 1921, with the result that all British officers left Persia, and were replaced by an American Financial and Organising Mission.

The Anglo-Persian Agreement of 1919

The rapid rise to power of Riza Khan in 1921, first as Prime Minister and Commander-in-Chief, and later as Dictator and Shah of Persia in 1925, was followed by measures of internal reorganisation along the following lines :—

- (a) The creation of an efficient national Army, by the introduction of conscription for all males between the ages of 20 and 45 (2 years with the colours).
- (b) The destruction of the power of semi-independent tribes who have kept certain areas in a state of anarchy for years.
- (c) The reorganisation of the finances of the country and the placing of them on a sound footing.
- (d) A progressive policy of railway construction.

In order to further this last aim, in 1925 a " Sugar and Tea Monopoly Law " was introduced, by which the proceeds from a surtax on imported sugar and tea are used for railway projects. Later, in 1926, a " compounded road tax," leviable only at the frontier, replaced all the old road taxes leviable throughout the country, and is devoted to the maintenance and construction of motor roads. In accordance with this policy, a Trans-Persian railway is being constructed at present. When completed, it will run from Bander Gaz (Bander Shah) on the Caspian through Tehran and Kazvin to Hamadan. From Hamadan it will turn south, crossing the

The Trans-Persian Railway

Anglo-Persian oilfields and have, as its terminal port, Bander Shahpur (Kormusa) on the Persian Gulf.

This line, therefore, when completed, will offer an opportunity for Russian economic or military advance into Persia and Iraq. Hamadan is connected by a motor road with Kasr-i-Shirin on the Iraq railway system; and, alternatively, an advance southwards, following the railway, would lead to our most important petroleum sources. In conjunction with the air route, Enzeli-Tehran-Bushire, operated by the German Junker Company, it will tend to help Russian penetration from the Caspian to the Persian Gulf.¹

In fact, the policy of constructing a railway from North to South in Persia is not the one most suited to British interests. Persia is a buffer against Russian expansion towards Iraq, the Persian Gulf, the Arabian Sea and Baluchistan. At present, owing to the scarcity of communications running from the northern boundary and the Caspian, it is an efficient buffer; but the development of a north to south railway will tend to assist Russian penetration.

British interests would have been better served by an East to West line. Persia is a corridor between Iraq and Baluchistan, and the construction of an East to West railway to join up India through Baluchistan and Persia with Iraq would benefit all these countries, would form a link in a future fast railway route from India to Europe, and would, if running through Southern Persia, be comparatively secure from the likelihood of attack.

Persia is not merely a buffer against Russian penetration to the Indian Ocean, and a link between Palestine and Iraq on the one side and India on the other. It is of special importance because our chief Imperial airway runs along its southern coast, and it therefore possesses the power to deny to us the right of operating this route.² Further, in its territory lie the Anglo-Persian oilfields which are the source of 60 per cent.

¹The construction of the line (which was being constructed by a German firm, together with certain French and British interests) has been suspended (1930) temporarily on financial grounds.

²An alternative route along the coast of Arabia is being surveyed, and may possibly be adopted if Persia should refuse to allow us at any time to continue using the present route via Bushire, etc.

of the petroleum produced within territory under British control.

In addition to the various British interests which have been mentioned, such as the protection of our oil supply, trade and our air route to India, Great Britain is largely concerned in "policing" the waters of the Persian Gulf and suppressing the occasional traffic in slaves and arms. For this purpose, British naval vessels patrol its waters, making use of a harbour in the Persian island of Henjam, near the entrance to the Gulf, as a fuelling port. This harbour is within a telegraph concession granted to us by Persia in 1868. Basidu, at the western end of the island of Kishm, has also been used for similar purposes from time to time. Bahrein, which is under British protection, unfortunately does not offer the same facilities, owing to a humid unhealthy climate and poor anchorage. It is noteworthy that our occupation of Basidu and Henjam are contingent on the prolongation of existing agreements with Persia, while, in the case of Bahrein, a Persian claim to the ownership of that island has recently been asserted on the grounds of a Persian occupation prior to the nineteenth century.

CHAPTER XVI

INDIA AND ITS GATEWAYS

A BRIEF SURVEY OF INDIA

THE great peninsula of India extends from the latitude of Southern Nigeria to the latitude of Southern Spain. If lifted bodily and placed over Europe so that its most northerly point covered the Shetlands, Cape Comorin would be in the neighbourhood of Gibraltar. Its area is the area of Europe excluding Russia. The distance from Bombay to Calcutta (1,200 miles) is greater than that from London to Belgrade or Riga : from Madras to Bombay (650 miles) is greater than from London to Berlin, and from Delhi to Madras (1,070 miles) is further than from London to Rome.

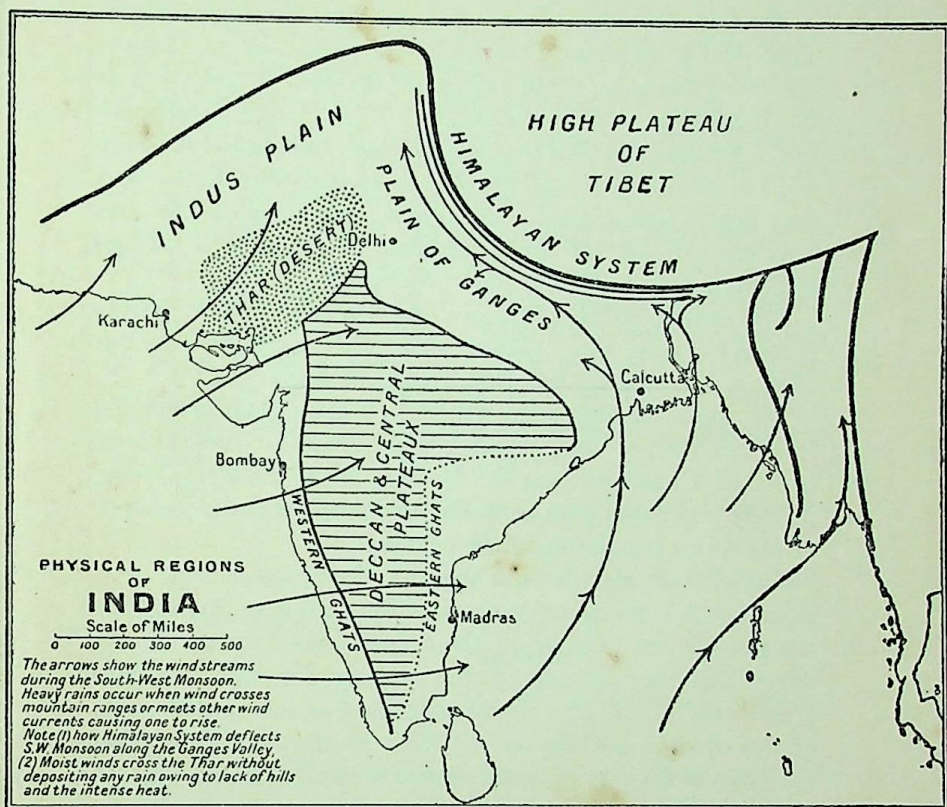
In spite of its size, however, the general physical features of India are simpler than those of most large land areas on the globe. We can divide it into three distinct regions :—

- (1) The Himalayan system.
- (2) The Peninsular Plateau.
- (3) The plain of the Indus and Ganges (the “ Indo-Gangetic plain ”).

The Himalayan System. The Himalayas (“ abode of snow ”) stretch for 1,500 miles (*i.e.*, as far as from Calais to Constantinople) from Burma in the east to Afghanistan in the west along the northern frontier of India. They consist of parallel ranges separated by deep valleys, rising from foothills of 3,000 ft. in height by gradual steps to the Great Himalayas which average 20,000 ft., and the total width of the whole immense barrier is some 200 miles.

The Peninsular Plateau, which may be conveniently described as the Deccan (the South) though strictly speaking the Deccan is only that portion which is south of the Narbadda.

This is a plateau averaging about 2,000 ft. in height, but highest at its western edge, where it falls to the coastal plain in the steep scarps or steps known as the Western Ghats (Ghat = step). As the slope of the plateau is downward



MAP 24.

from west to east most of the rivers of the Deccan (the Mahanadi, Godaveri, Kistna, Penner and Cauvery) flow down to the Bay of Bengal where they form great fertile deltas. Two streams, however, the Nerbada and Tapti break this rule and cut their way along lines of fracture in the plateau between lofty cliffs to the comparatively narrow coastal plain at the foot of the Western Ghats, where they enter the Arabian Sea.

The plateau of the Deccan must not, however, be viewed as a (c) hill

merely as a great sloping regular surface. It is undulating country with many wide valleys and strange hillocks like slag heaps, and rises at times, as in the Nilgiris at the south-western edge, to a height of 8,000 ft. or more.

The Indo-Gangetic Plain. Between the Himalayas to the north and the Deccan Plateau to the south lies the land of the two great rivers, the Indus, which rises to the north of the Himalayan system, cuts its way through and flows south to the Arabian Sea, and the Ganges which rises on the southern slope in the Punjab and flows in an easterly direction over a very gently falling plain. So gentle is the slope of this plain that the "height of land" between the Indus and Ganges systems is only 1,000 feet above sea level.

The Brahmaputra, rising in Tibet and cutting through the Himalayas near their eastern end, flows south to join the Ganges, carrying silt to form a great combined delta.

The Indo-Gangetic plain watered by these great rivers and their tributaries, and provided with alluvium washed down from the Himalayas and the Deccan, is the most fertile and densely populated part of India, and supports forty per cent. of the whole population of the country.

*The climate
of India*

The climate of India has the one advantage of regularity. It proceeds from month to month by fixed laws, imperfectly understood but regular in their application, almost to the day. The mainsprings of the climate are the monsoons ("seasons"). In the colder months the sun moves south of the equator heating the air there so that it rises and air then moves from India to the heated area in replacement. The direction of the movement would be from north to south were it not for the rotation of the earth which gives it a twist to the right, so that the winds during this season blow from the north-east (the North-East or Dry Monsoon), and being land winds from the north are dry and cold. When the sun moves north of the equator and heats the air over the Indian peninsula to a temperature above that of the air on the Indian Ocean then moisture-laden winds blow from the south-west (the South-West Monsoon). This moisture-bearing wind, rising to cross the Western Ghats, loses some of its moisture by condensation and heavy rains fall on the coastal plain and Ghats. As the air current continues to move north-eastwards the rainfall

becomes less until it reaches the barrier of the Himalayas which again causes an immense condensation and very heavy rainfall. The great forests and marshy jungles (Terai) at the foot of the Himalayas are witnesses to this great deposit of moisture.

Where there are no obstacles, like the Ghats or Himalayas, to raise the air stream and cool it, rainfall is slighter, even during the south-west monsoon, and we find regions in the north-west, like the Thar, which are desert, or only prevented from being desert by the passage of great rivers like the Indus and the construction of irrigation works.

On the eastern coast the south-west monsoon strikes up through the natural gateway of the Ganges plain and takes a path towards the north-west. As the sun retreats south in the later months of the year and the north-east monsoon sets in, parts of this eastern coast still get rainfall owing to the moisture collected in its passage across the Bay of Bengal.

We can thus divide the climate of India, with reference to the monsoons, into definite periods :—

The Dry Monsoon (N.E.) (1) Cold weather. December to March.

(2) Hot weather. March to June.

The Wet Monsoon (S.W.) (1) The rains. June to September.

(2) Cool weather. October to December.

Within this division, however, there are many varieties of temperature depending on the *altitude of places and their distances from the sea*. Thus the cold weather in the Punjab is really cold, but that on the Deccan many miles further south and nearer to the sea is like a warm summer's day in England ; while the hot weather on the Indo-Gangetic plain is many degrees hotter on the average than the corresponding temperatures for places on the Deccan plateau. Coastal towns vary little in temperature from month to month and are hot and humid throughout the year.

We can for convenience, classify military stations into (a) plain stations ; (b) plateau stations ; (c) hill stations. Plain stations under this classification would

include not merely places on the coast such as Bombay, Karachi, Calcutta and Madras or in the Indo-Gangetic plain such as Delhi, Lahore and Dera Ismail Khan, but also places on the lower parts of the Deccan where the altitude is not sufficient to give any alleviation from the fierce heat. Plateau stations are those where the altitude runs from about 2,000-4,000 ft., and is sufficient to allow of residence for British women and children throughout the year. These are in the Deccan, *e.g.*, Poona (the summer capital of the Bombay Presidency), Mount Abu, Belgaum, Mhow and Pachmarhi. The hill stations (over 5,000 ft.) are all in the Himalayan system, *e.g.*, Darjeeling, Naini Tal, Mussoorie, Simla, Murree—with the exception of a few like Wellington and Ootacamund (summer capital of Madras) which are situated in the Nilgiri Hills.

*Climate in
relation to
service and
operations*

While there are many varieties of climate, all possess some of the disadvantages of the tropics in relation to military service and operations. Apart from the immobility caused in parts such as Bengal or the Malabar Coast by the heavy rainfall of the S.W. monsoon, or the difficulties of movement on the plains during the hot season, climate handicaps military operations in the following ways :—

1. Casualties due directly or indirectly to the climate are greater than in warfare in temperate lands. Measures of hygiene and sanitation, arrangements for hill sanatoria, preventive measures against diseases such as malaria, plague, cholera, enteric, etc., must play an important part and absorb a comparatively large personnel.

2. The heat of the hot season limits the use of the tank as a weapon.

3. Troops from Great Britain or the Dominions coming to India as reinforcements would normally require a period for acclimatisation of probably six to eight months before they could be used to their greatest effectiveness.

In addition to the above, the effects of the climates and meteorology of the N.W. Frontier in relation to gas defence require investigation.

India is almost entirely an agricultural country. Nine-tenths of the people live on their own crops, and all other

*The re-
sources of
India
(a) Agricul-
tural*

occupations are of secondary importance. The agricultural products can be conveniently considered with reference to the natural regions already described.

- (1) The Himalayan system. A region of heavy rainfall and comparatively sparse population. Tea in Assam and the Darjeeling district, rice in the well-watered valleys, maize and wheat on the dryer slopes of hills are the most important crops, while on the higher slopes potatoes and fruit are cultivated with success.
- (2) The Deccan Plateau. In the north-west there is a vast region of disintegrated volcanic rock known as black cotton soil which produces 60 per cent. of the output of Indian cotton. It is grown, however, under primitive conditions and is of poor quality. The "staple" (length of fibre) is too short for the Lancashire spinning factories, and the export trade is therefore chiefly to Germany and Japan which deal in the cheaper qualities of cotton goods.

The remainder of the Deccan produces stock, barley, maize, rice, millet and wheat, and on the western coastal plains beneath the Ghats sugar is being grown in increasing quantities.

- (3) The Indo-Gangetic plains are the most fertile agricultural part of India and produce jute and rice in Bengal, wheat, millet, barley, cotton and sugar cane in the United Provinces and eastern Punjab; wheat, millet and maize in the western Punjab and stock in the plains of the north-west. This is also the region of the great cities like Calcutta the port for the Ganges-Brahmaputra region. Allahabad a trading centre at the junction of the Jumna and the Ganges, Lucknow on the river Gumti, Cawnpore on the Ganges, and Lahore beside the Ravi, one of the tributaries of the Indus.

Coal to the amount of over 20 million tons a year, but of rather indifferent quality, is produced chiefly in western Bengal and the Deccan. For shipping and manufacturing purposes imported Natal coal is largely used. Iron ore is found and worked in Orissa, Central Provinces and Bengal. The manganese of Madras, Central India and Central Provinces

(b) Indus-trial

(750,000 tons annually) is one of the leading mineral exports, as is also mica from northern Bengal.

Bombay and the Central Provinces are now centres of many cotton factories, working in competition against the Lancashire concerns which once supplied almost all the cotton goods used in India. They produce a coarser and cheaper variety and the lower price, aided by political agitation for the use only of home products, has tended to reduce our import trade in this direction. Flourishing iron and steel works, like the Tata concern, are developing the iron ore resources of the country; and jute works in the neighbourhood of Calcutta have reduced the imports of manufactured jute.

India receives the vast bulk of her imports from Great Britain, and Great Britain is likewise her best customer, with Japan and the United States respectively second and third.

With the development of her industries and her means of communication India will tend economically to become more important as a supply and technical base for the naval and military forces in the East, provided the production and movement of the supplies can be safeguarded.

*India as a
base of
supply*

Before and during the war, important technical and manufacturing establishments were developed under the direction of the Master General of Ordnance to meet the needs of the Army in time of peace and to be capable of expansion to meet war demands. Of these establishments the most important are the Metal and Steel Factory at Ishapore near Calcutta, the Cordite Factory at Aruvankadu, in the Nilgiris, the Gun Carriage Factory at Jubbulpore, the Gun and Shell Factory at Cossipore, the Rifle Factory, Ishapore, the Ammunition Factory, Kirkee, and the Clothing Factories at Shahjahanpur and Madras. In addition to these military establishments, the great expansion of the Tata Steel and Iron Works, of railway and locomotive works belonging to the various railways, of the cotton mills of Bombay, of woollen mills at Cawnpore, of jute mills at Calcutta, and of the coal, petroleum and other mineral resources of the country is gradually making India less dependent on Great Britain for necessary military supplies in time of war. All the finer technical equipment, all motor

transport and aircraft with their accessories, most of the explosives used, all the materials for chemical warfare, a large proportion of the wool for great coats, and several of the necessities of life for white troops and the white civil population must still, however, be imported. Technical skill is not widespread nor is it of a high order.

The total length of railways (all government owned or controlled) is about 40,500 miles of which more than half is of Indian standard gauge (5 ft. 6 ins.), 15,500 miles are metre gauge and the remainder is of 2 ft. 6 ins. or 2 ft. The advantages of the 5 ft. 6 ins. gauge are manifest to any traveller in India, particularly after he has changed from a long and tiring journey on a metre gauge. Smoothness of movement, comfortable carriages and more air space are essentials of long-distance travel in a hot climate. The disadvantage, particularly from a military point of view, is the impossibility of utilising rolling stock from Great Britain or nearer countries like Egypt or Australia on Indian lines in case of need. Spain, indeed, is the only country from which rolling stock of this particular gauge could be obtained at short notice.

The main lines are as follows :—

- (1) The Great Indian Peninsular Railway (G.I.P.R.), from Bombay to Jubbulpore, and Nagpur and to Delhi ; and from Bombay via Poona to Raichur through the Bhore Ghat (an important pass through the Western Ghats).
- (2) The East Indian Railway (E.I.R.) from Jubbulpore through Allahabad to Calcutta and Delhi.
- (3) The Bengal-Nagpur Railway (B.N.R.) from Nagpur to Calcutta, and from Vizagapatam to Calcutta.
- (4) The Madras and Southern Mahratta Railway (M. & S.M.R.) from Bombay to Bangalore and Madras.
- (5) The Bombay, Baroda and Central India Railway (B.B. & C.I.R.) from Bombay via Baroda to Delhi.
- (6) The North-Western Railway (N.W.R.) from Karachi to Lahore and the North-West Frontier, with branches to Quetta, Amballa and Delhi.
- (7) The South Indian Railway (S.I.R.) from Madras to the southern end of the peninsula.

(b) *Navigable Rivers* The Indus is said to be navigable for small steamers as far as Dera Ismail Khan, and its tributaries the Chenab and Sutlej as far as Chiniot and Ferozepore respectively. The Ganges can be used as far as Cawnpore and small steamers can also pass up the Gogra as far as Fyzabad.

The great rivers on the east coast of the Deccan, the Mahanadi, Godaveri and the Kistna are all navigable for some distance above their deltas though traffic on them is not very considerable. Those on the west coast are useless for navigation owing to their rocky beds and swift currents.

(c) *Roads* There are some 60,000 miles of metalled roads in India, in addition to several hundred thousand miles of unmetalled roads and tracks, all of which are under the control of a public works department in each province. The metalled and military roads have on the whole a level surface, but are so scorched and cracked by heat in parts that the surface disintegrates into fine dust some inches deep, unpleasant in dry weather and creating a sticky amalgam in the rains.¹ Except in the neighbourhood of cantonments repairs are only carried out infrequently: bridge works are often old and sometimes dangerous; gradients, particularly in the Deccan, leave much to be desired and curves are hair-raising. The roads joining the large military stations are, however, on the whole in good repair considering the climate and the labour available, and are a necessary and useful adjunct to rail communications. The three grand Trunk Roads of India are of great historical and military importance, viz. (1) The road from Madras, through Bangalore, Belgaum, Poona, Kalyan (near Bombay) Mhow, Indore, Gwalior and Agra to Delhi. (2) The road from Calcutta via Benares, Allahabad and Cawnpore to Delhi and thence to Ambala, Lahore, Rawalpindi and Peshawar. (3) The trunk road from Madras to Calcutta. Most of the important cantonments of India outside the North West Frontier lie on one or other of these trunk roads. The advent of the motor is having a beneficial effect on the building and maintenance of roads.

Seaports

The most important seaports are Bombay, Karachi, Calcutta, Madras, Chittagong and Vizagapatam. Bombay in spite of the

¹ Indian roads, owing to the shortage of proper road metal are generally made of broken bricks or granular limestone which easily disintegrates.

growth of Karachi still remains much the more important of the two great harbours of the west. Karachi, however, has four advantages. It is the natural port for the North-West Frontier; it is less affected by the south-west monsoon; its climate is less severe than Bombay and it lies at the air gateway by the Indo-Gangetic plain to Calcutta. It may therefore be the great airport of India in the future. Calcutta, 120 miles up the Hooghli river, in spite of its greater distance from England, is the most important trading port in India because it is the export centre for Bengal trade. Madras, like all coastal towns on the eastern side of the peninsula, has no natural harbour, is dangerous during part of the north-east monsoon, but is situated at the eastern end of the important Palghat pass through the Deccan to Calicut, and is the most convenient port for communication with Burma. Chittagong, the port for the export of rice, tea, oil and hides from Assam, is becoming of great importance. Vizagapatam is still undeveloped, but is protected from the southerly gales, and should be the outlet of a large area of fertile country, a half-way station between Colombo and Calcutta, and a port on the most direct route from Europe to Rangoon.

The chief features of the communications of India in relation to its security are :—

Communications in relation to operations

1. A lack of variety of railway routes, particularly in the Deccan and Central India. The export of great quantities of railway material and rolling stock to Mesopotamia during the war, together with financial stringency, handicapped progress in the railway development of India for some time after the war.
2. The frequent changes of gauge from the 5 ft. 6 in. Indian standard gauge to the metre or narrow gauge which would hamper the free passage of men and material in time of war and absorb personnel at stations where gauge is broken, *e.g.*, Khandwa, Rutlam, Hyderabad (Sind), Poona, etc.
3. The scarcity of bridges across some of the larger rivers of India, and the consequent enhanced importance of those which exist, *e.g.*, the railway bridges across the Nerbada at Mortakka, and near Jubbulpore (on one of the main

lines from Bombay to Calcutta). Also the four bridges across the Indus at Kotri, Rohri, Khusalgarh and Attock.

4. The lack of lateral railway communication west of the Indus between the two main approaches to Afghanistan : viz., by Quetta and the Khyber Pass.
5. The lack of railway communication from India to Burma and the North-East Frontier.

*The
Political
Divisions of
India*

The four political divisions of India are as follows :—

British India	(1) The Nine Provinces.	} Population
	(2) Minor administrations directly under the Government of India.	
	(3) The Indian States.	} 250,000,000
	(4) Independent Native States.	
		} 70,000,000

*(1) The
Provinces of
British India*

The major provinces of British India, known as "Governor's provinces," are Madras, Bombay, Bengal, the United Provinces, the Punjab, Behar and Orissa, the Central Provinces, Assam and Burma.

*(2) Minor
Adminis-
trations*

The minor administrations consist of the N.W. Frontier Province, British Baluchistan, Delhi, Coorg and Ajmer-Merwara which are all under the personal administration of Chief Commissioners in direct subordination to the Government of India.

*(3) Indian
States*

There are some 562 Indian states under various degrees of British control of which only a few are of great importance. The most important are Mysore, Hyderabad, Gwalior, Baroda and Kashmir. In all these native states varying amounts of power are still left in the hands of the Indian Princes who rule there, and who are advised by British representatives or agents. These states are therefore, strictly speaking, protectorates.

*(4) Indepen-
dent Native
States*

Nepal, Sikkim and Bhutan forming a broken line along part of the northern frontier are independent states governed entirely by their own rulers, though in the cases of Sikkim and Bhutan, the British Government has the right to control external relations.

The population of India is about 320,000,000, speaking

222 vernaculars composed of 60 different nationalities and belonging to 2,300 tribes or castes. They can be divided broadly into two groups, (1) the older Dravidians on the Deccan plateau, the early inhabitants of the whole peninsula who were pushed southwards by (2) the newer Aryan peoples who now fill the valleys of the Indus and Ganges. To this latter group belong the Hindus proper of the Ganges plain, the vigorous Rajput tribes, the Jats, the sect of the Sikhs in the Punjab, and the Konkanese along the coast south of Bombay. In the southern or Deccan group of peoples the most prominent are the Tamils whose language is spoken all over the lowlands of the Carnatic, the Telugu, north of the former, and the Tulwa, the original inhabitants of the region beneath the Western Ghats. In the Eastern Provinces there is a strong admixture of Mongol blood, also, and the Bengalis contain Mongol, Aryan and Dravidian strains.

*The Races.
Languages
and Reli-
gions of
India*

Religions are as varied as languages, but the most important are, Hindus (217,000,000), Mohammedans (70,000,000), Buddhists (12,000,000), Sikhs (3,000,000), Christians (5,000,000) and Jains (1,000,000).

Not merely are there in India many races, languages and religions, but there is also a distinction, which finds its roots in antiquity between the classes of the community who are regarded as fitted by traditions for fighting and those who are not. Enlistment into the Indian Army is therefore restricted to a much smaller population than that of India as a whole, as may be seen from the following table showing the races from which recruiting chiefly takes place.

*The Fighting
Classes*

<i>Name.</i>	<i>Religion.</i>	<i>Habitat.</i>	<i>Estimated total population.</i>
Dogras (or Hill Rajputs)	Hindus ...	Punjab Hills between Ravi and Sutlej	Figures not available.
Garhwalis ...	Hindus ...	Garwhal Hills north of Delhi	500,000
Gurkhas ...	Hindus ...	Nepal ...	3,500,000
Hazaras ...	Mohammedans (Shiahs)	Transfrontier (Afghanistan)	1,000,000
Jats ...	Hindus ...	Punjab and United Provinces	2,000,000
Karens, Chins and Kachins	Animists and Christians	Burma ...	2,000,000
Kumaonis ...	Hindus ...	Hills north-east of Delhi	Figures not available

<i>Name</i>	<i>Religion</i>	<i>Habitat.</i>	<i>Estimated total population</i>
Madrassis ...	Christians, Hindus and Mohammedans	Madras Presidency	40,000,000
Mahrattas ...	Hindus ...	South India round Poona and Belgaum	4,000,000
Hindustani Mohammedans	Mohammedans	U.P. and round Delhi	1,700,000
Punjabi ...	Mohammedans	From Indus to Sutlej	6,000,000
Mohammedans	Mohammedans	From Alwar, Bharatpur and Gurgaon	Figures not available
Rajputana Mohammedans	Mohammedans		
Pathans ...	Mohammedans	North West Frontier	800,000
Rajputs ...	High Caste Hindus	East and West Rajputana	3,000,000
Sikhs ...	Sikh Religion	Punjab round Amritsar	3,000,000
Total			67,500,000
Total omitting Gurkhas			64,000,000

This total, however, includes many sub-classes of Pathans, Mahrattas, Madrassis and Punjabi Mohammedans who are not enlisted; and the total population of the classes who are actually enlisted is probably not more than 40,000,000.

In the following table the totals recruited during the war from the various parts of India are shown in comparison with the total population of these parts, in order to exhibit the larger percentages which the Punjab, and United Provinces provide towards defence as compared with the rest of British India.

<i>Central Provinces.</i>	<i>Combatants.</i>	<i>Non-Combatants</i>	<i>Total</i>	<i>Total Population (1921)</i>
Assam ...	900	14,200	15,100	7,600,000
Bengal ...	7,100	51,900	59,000	46,700,000
Bihar and Orissa	8,600	33,000	41,000	34,000,000
Bombay ...	41,300	30,200	71,500	19,300,000
Central Provinces	5,400	9,600	15,000	13,900,000
Madras ...	51,200	41,100	92,300	42,300,000
North West Frontier Province	32,200	13,000	45,200	2,300,000
Punjab ...	349,700	97,300	447,000	20,700,000
United Provinces	163,600	117,600	281,200	45,400,000
Burma ...	14,100	4,600	18,700	13,200,000
Ajmer Mewara ...	7,300	1,600	8,900	500,000
Baluchistan ...	1,800	300	2,100	400,000
Gurkhas ...	54,700	4,100	58,800	3,500,000
Indian States ...	88,900	21,900	110,800	70,000,000
Total ...	827,800	450,700	1,286,600	319,800,000

Of the total combatants enlisted during the war, over 40 per cent. therefore came from the Punjab and about 20 per cent. from the United Provinces; while Bengal with a population approximately the same as that of Great Britain only provided about 7,000 men.

The fighting forces of India, by reason of the variety of races from which they are recruited, suffer from the lack of a common language. Thus the men from the Punjab mostly speak Punjabi; those from the North-West Frontier, Pushtu; the Gurkha speaks Gurkali or Khaskura; the Mahratta, Mahratti and the Madrassi, Tamil or English. In order to provide a common medium for orders, military text books and manuals, etc., Urdu (written in the Roman script) is now used as a lingua franca. It is taught to those men (about 40 per cent. of the whole Army) to whom it is an unfamiliar language; and the writing of this language in the Roman script is now taught throughout the Indian Army.

Not merely do the man power resources of India suffer from a lack of homogeneity due to the strongly marked division of race, language, religion and fighting tradition which have been indicated, but they are further handicapped by the caste system common to all Hindus, and adopted in some degree by parts of the Moslem population also. Trades, professions and callings are reserved to certain castes; a man's career is therefore to a large extent predetermined, initiative is prevented and ambition stifled. This caste system provides another problem also, which is gradually becoming more acute, of the 50 million people who are "out-cast," the "untouchables," who with increasing education are becoming more articulate and less prepared to accept their subservient social and economic status.

Further, the population of India is predominately agricultural. Eighty-five per cent. of it lives in villages, is rooted to the soil, seldom moves more than a few miles from its homes, and is extremely conservative in methods of agriculture, modes of life and rules of hygiene and sanitation. Diseases, such as malaria, and epidemics of plague and cholera are able to take an enormous toll annually, and the average longevity of the Indian is only about 25 years, as against double that period for the inhabitants of these Islands. When

*Lack of a
common
language*

*Other
Character-
istics of
Indian Man
Power*

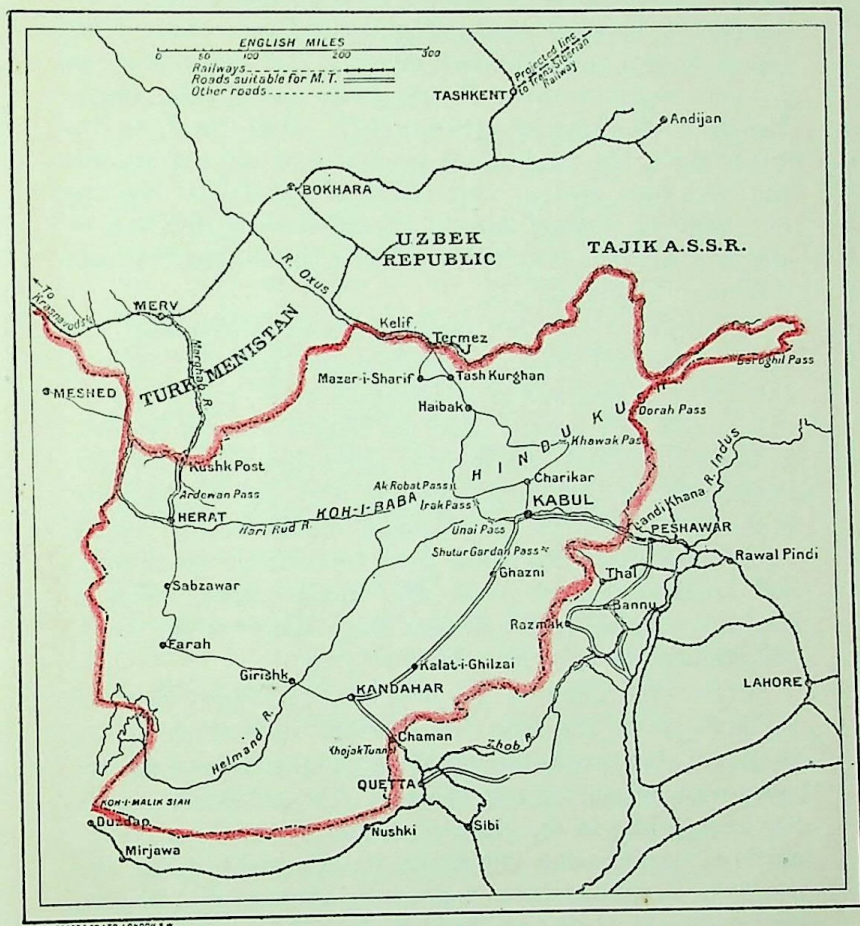
15 years are taken away from this average life for childhood, the average manhood period is thus only 10 years in India as compared with 35 here.

Further, widespread illiteracy exists, and only 8 per cent. of the total population can be classified as literate. This not merely increases the difficulty of introducing a general public opinion on matters of health and sanitation, new modes of agriculture, sound economic principles, etc., but it also seriously limits the proportion of the population which is available for technical development. The education which exists tends to be regarded by the Indian as a means to obtain Government employment, and not as an essential for the economic development of the country.

To sum up, the population is extremely heterogeneous in every possible way, and lacks the power of united action owing to its diversity of race, language and religion; it does not possess *as a whole* the fighting traditions which are the assumption underlying Western democratic governments; it is agricultural and intensely conservative in all its traditions, economics and modes of work, and an overwhelming proportion is illiterate and unskilled.

THE NORTH-WEST FRONTIER

Though the total land frontiers of the British Empire extend for more than 13,000 miles, either for political reasons, as in the case of the frontiers of Canada, or physical reasons, as in the case of the frontiers of the Colonies in Africa, they are subject to little danger of attack. Only in the case of India is the question one of constant interest and pre-occupation. Even in this case, however, out of a northern and western land frontier 2,800 miles in length, 1,600 miles are admirably protected by the immense natural wall of the Himalayas. The remaining portion, extending from Kashmir to the Arabian Sea, a distance of 1,200 miles, is the only part which might be considered open to attack. Fortunately this section consists of an excessively mountainous country, with comparatively few passes, extending from Kashmir to within 100 miles of the coast in Baluchistan. The avenues of approach or passes through this region are the most im-



MAP 25. Afghanistan.

portant features of the military geography of the North-West Frontier.

*The physical
features of
the North-
West
Frontier*

In order to grasp the direction and relative importance of these various entrances, the large mountain ranges and their river systems must be studied first. Commencing at the north-east corner of Afghanistan, beyond the extraordinary salient, known as the Wakhan, given to Afghanistan to act as a buffer region between British India and Russia, lie the Pamirs ("the roof of the world"). Here we have the beginning of the Hindu Kush mountains, which run towards the south-west, keeping north of Chitral and Kabul. Pivoting out from the Pamirs also, in a south-easterly direction, is the Muztagh range which runs along the frontier between Kashmir and China.

If we now follow the frontier between Afghanistan and India southward from the Wakhan we find that it runs through a broken and mountainous country, penetrated by only a few high passes, until the Kabul river is reached. Between the Kabul and Kurram rivers lies the Sufed Koh range, running almost due east and west, and to the south of the Kurram the frontier is again a formless mass of broken mountains, having a general trend towards the south-west, and eventually merging into the Suliman range, which in turn is continued by the Kirthar range almost to the sea in the neighbourhood of Karachi.

Fifty to 150 miles to the east of this tangled mass of highlands flows the river Indus, which rises north of the Himalayas, but breaks through them, and then takes a general south-west course towards the sea. The tributaries on its left bank, rising in the Himalayas, flow across the plains of northern India; the tributaries on the right bank, rise mainly in the mountainous regions and plateaux of Afghanistan, and break their way through the highlands and ranges which separate India from that country. Of these tributaries the Kabul river, which enters the Indus at Attock, is the most important and it, in turn, has two notable tributaries, the Kunar and the Swat. Further to the south is the next important tributary, the Kurram river, flowing from the highlands south of Kabul through the Kurram valley to enter the Indus. The Tochi, a tributary of the

Kurram, should also be noticed. Further south again lies the Gomai, joining the main stream rather to the south of Dera Ismail Khan (D.I.K.), only during the flood season. At other times it disappears long before it nears the Indus.

The Indus itself, close to Attock, cleaves its way through ravines, and is a torrent impossible for navigation. Below Attock it widens to about 50 yards and, further south, near Kalabagh, it widens to a mile.

The boundaries of India on the North West must be considered next. They are two in number, viz. : *The two boundaries of India*

- (1) The boundary agreed on and delimited in 1895 by the British Government and Afghanistan, and known as the "Durand Line." This boundary separates the country for which the King of Afghanistan is responsible from the country for which the Government of India is nominally responsible. India, however, does not actually administer all the region to the east of this line, so we must consider, in the second place, the boundary up to which administration is actually carried out, and which is known as the administrative boundary.
- (2) The administrative boundary lies generally well to the east of the Durand Line, north of the Kabul river. Between the Kabul river and the north-east corner of Baluchistan it approaches the Durand Line most nearly in the regions of the important passes, while, further south, in Baluchistan the two boundaries coincide.

There is thus a large elongated tract of country to the north of Baluchistan lying between the two boundaries, which is not administered by either Afghanistan or India, but which is theoretically under our control and is known as the Territory of the Independent Tribes.

This territory is inhabited by Pathan tribes, the Bajauris, Swatis, Mohmands, Afridis, Orakzais, Mahsuds and Wazirs, *The inhabitants of the Frontier* generally similar in tribal constitution and characteristics, all talking Pushtu, and prone to regard frontier fighting and the plundering of the rich plains at the foot of their mountain homes as the chief means of subsistence. Each of these tribes could in case of war produce a concentration of approximately 20,000 men, armed with comparatively modern firearms ;

but fortunately the tribes vary so much in character that the possibility of combination, except under the enthusiasm of a great religious movement (Jehad), is always remote. Those north of the Kabul river are strongly governed by their local chieftains who can be subsidized and thus kept in order. Further, of recent years, the Afridis and Mohmands have accumulated some wealth from trade and contracts in connection with the Khaibar Pass, and with this acquisition of property have become less inclined to create trouble. The Wazirs and Mahsuds of Waziristan, on the other hand, have no vested interests in India, are poor, inhabit a country which cannot support them, and are not under very effective control by their own tribal chieftains. The region of these tribes is therefore one where the most constantly recurring trouble has been experienced of recent years.

*The Passes
of the N.-W.
Frontier*

Having sketched the general physical and racial characters of the country we must next consider the gateways through the frontier.

Starting from the north the most important passes in the neighbourhood of the Wakhan, are the Kilik (15,800 ft.) the Baroghil (12,500 ft.); and the Dorah (14,800ft.) which leads from Faizabad in Afghanistan into Chitral. These passes, on account of their altitude and the fact that they are seldom clear from snow, are useless for the movement of a large army with the mechanical appliances of modern war.

Following the frontier region southwards we come to the five great gateways, which spread out like five fingers from the palm of the Indus plain. The first and most vital is the Khaibar, the main entrance from Kabul into India.

1. *The
Khaibar*

The Khaibar route runs from Peshawar through Jamrud, where the actual pass begins and extends for 30 miles to Landi Khana. This is the chief historical, military and commercial route into India. A railway and two motor roads run from Peshawar to enter the pass at Jamrud and terminate at Landi Khana on the Afghan border.

2. *The
Kurram*

South of the Khaibar, the next pass is by the Kurram valley which also leads towards Kabul. It is closed by snow during part of the year. The railway to this pass crosses the Indus at Khushalgarh, breaks gauge at Kohat and proceeds on to Thal. From Thal it may in the future be continued up to Parachinar.

The Tochi river and Tochi valley leading from Bannu 3. *The Tochi* to Ghazni south of Kabul, is a route which runs through difficult country, and was little used, but is now being developed.

Further south, following the track of the Gomal river, lies 4. *The Gomal* the Gomal route to Afghanistan, connecting Ghazni with Dera Ismail Khan, and by its tributary the Zhob, leading also southwards towards Baluchistan.

To the south-west of the Gomal and south-east of Quetta, 5. *The Bolan* lies the Bolan pass, which shares with the Khaibar the greatest commercial and strategic importance. The Bolan is a narrow gorge, about 56 miles long, converging to a very restricted entrance at the western end, which could be made almost impregnable by a comparatively small force. Through it runs the military road and railway from Sibi to Quetta.

LINES OF COMMUNICATION ON THE N.-W. FRONTIER

Roads in this region have been built chiefly to meet strategic *Roads* needs and can be classified into those which can be used for (1) *Advance* advancing along routes made by the river valleys towards the frontier of Afghanistan, and those which are lateral, and enable communication to be maintained between the various possible lines of advance.

The first type can best be considered in relation to the passes they serve.

- (a) The Khaibar. The roads from Peshawar through the Khaibar to Landi Khana and thence to Kabul, with its important branch, the Chitral road from Nowshera to Chakdara. In the Khaibar itself are two motor roads which are suitable for heavy mechanical traction. Beyond Landi Khana, however, the single road to Kabul is only suitable for mechanical transport in fair weather.
- (b) The Kurram. The road from Peshawar, via Kohat and Thal to Parachinar, which serves this route is satisfactory for M.T.
- (c) The Tochi is served by a continuation of the Peshawar-Kohat road through Bannu and Idak to Datta Khel.
- (d) The Gomal is served by a road which runs from Dera Ismail Khan through Tank and Murtaza to Spinkai Kach.

- (e) The Bolan. From the Indus to Sibi the road is sandy and difficult in bad weather for any form of wheeled vehicle. From Sibi to Quetta it is suitable for heavy mechanical traction. From Quetta to New Chaman it is fit for occasional use and from New Chaman to Kandahar it is little more than a well-marked track.

The four important lateral roads are :—

- (2) *Lateral*
- (1) The motor road from Peshawar, through Kohat and Bannu, formed of parts of (b) and (c) and continued southwards from Bannu to Dera Ismail Khan.
 - (2) (c) has been linked up by a road for light motors with Thal.
 - (3) The so-called "circular road" in Waziristan which has been built from Idak through Razmak and Jandola to Tank. This road is of special importance because it runs through Mahsud country, and Razmak on it has become an important military cantonment. The offshoot from this road, to Wana, where the Headquarters of the Wana Brigade are now situated, is also very important.
 - (4) The Fort Sandeman-Harnai and the Quetta-Fort Sandeman Roads which could be used for light motor traffic during most of the year.

Railways

The railways which serve the various passes are as follows :

The railway for the Khaibar route, as already described, runs from Peshawar to Landi Khana (5 ft. 6 ins. gauge). It has a branch on the broad gauge from Nowshera to the Malakand pass at Dargai, from which a good road runs to the Swat valley.

The Kurram is served by a line from Khushalgarh on the Indus to Kohat and Thal. (From Kohat to Thal is narrow gauge.)

The Tochi is served by a narrow gauge line which runs from the Indus at Mari Indus (Kalabagh Ferry) to Bannu. This narrow gauge line also has a branch via Pezu and Tank to its terminus at Manzai, thus forming a lateral line of communication from the Tochi almost to the Gomal. It is hoped in time to convert these lines to broad gauge. A bridge across the Indus at Kalabagh is under construction,

but considerable damage was caused to some of the initial work by the floods in 1929 ; and it is not likely to be completed before 1931.

There is a broad gauge line from Campbellpore to Darya Khan where a crossing can be made in the winter by a bridge of boats to Dera Ismail Khan. In the summer when the snows melt on the mountains the river becomes flooded and the passage is made by boat.

The Quetta route has a line through Sukkur on the Indus to Sibi where it branches into two, one line running via Quetta and the other by Harnai to New Chaman. From the former a branch runs out from Spezand across Baluchistan to Duzdap over the Persian frontier and flanks any advance on India through southern Afghanistan. From the second branch a spur runs out to the Zhob Valley at Kila Saifullah near Hindubagh. This line will in due course be extended to Fort Sandeman, and perhaps later to Tank, and will overcome the present lack of lateral rail communications to some extent, and be useful for the movement of troops from Quetta to Waziristan or even further northwards.

RUSSIA IN RELATION TO THE NORTH-WEST FRONTIER

The last 300 years have witnessed the steady advance of Russia into the less strongly organised Asiatic lands to her east and south. Thus the seventeenth and eighteenth centuries saw the gradual absorption of Siberia, its colonisation by Russian State settlers and the use of convict labour in large numbers for its development. The process became more rapid in the nineteenth century and was further stimulated by the opening of the Trans-Siberian railway. A similar advance brought Russia in the nineteenth century across the Caucasus into control of Tartars, Georgians and some of the Armenians of the Trans-Caucasian bridgeland. The movement south-eastwards was equally marked. The nomadic peoples of the Kirghiz steppes, which stretch from the Volga in a south-eastward direction to the borders of China, were all subdued by 1848. In 1865 Tashkent was captured : in 1868 Samarkand, and by 1875 Khiva, Ferghana and Bokhara had been absorbed in the new Russian province of Turkistan, whose boundaries now marched with the boundaries of Persia and

*Russia's
expansion
southward
and
eastward*

Afghanistan. By the beginning of the last decade of the nineteenth century Russia had reached the Pamirs, was almost in touch with India, and was preparing her way by political agencies for still further advances into Persia, Afghanistan and the Chinese provinces of Sinkiang, Tibet and Mongolia.

*Russia's
policy*

This gradual absorption of border races was partly the inevitable result of the impact of a comparatively highly organised state occupying a central position on unruly and less organised neighbours. It was partly due to the natural desire for a growth of territory and wealth. The advances across the Caucasus secured oil fields of great value and control of one of the important land bridges of the world. The movement towards the Far East gave her a fertile corridor 6,000 miles in length, leading to the Pacific, and access to the great natural resources of Manchuria and the markets of China. But apart from these obvious factors, there was behind this constantly advancing Russian tide a carefully pursued policy. Russia was cut off from the open ocean except on the frozen north, where only some minor harbours of the Murman coast were kept ice free by a branch of the warm Atlantic current. Her other ports were either in the Baltic or the Black Sea, enclosed salt water lakes whose narrow entrances might be blocked by hostile naval action. The search for a "warm water port," uncontrolled by neighbouring naval powers, has therefore for a century been a pronounced factor in Russian foreign policy. It was the predetermining cause of the wars against Turkey, fought in order to obtain control of the Bosphorus. It was one of the reasons for the extension across the Pacific to Vladivostok. It explains the stretching out towards the south and the menace to Persia and Afghanistan, which, in the latter years of the nineteenth century, were the most serious clouds on the strategic and political horizon of India.

*The Russian
routes of
expansion
southwards*

The physical geography of Asia has limited the possible routes by which Russia can expand southwards. A long broken chain of mountains runs from the Pamir plateau westwards, consisting of the Hindu Kush, the Elburz mountains, the Caucasus, the mountainous country of Armenia and Anatolia, and, in Europe, the Balkans, separating Russia from

a number of smaller countries, Afghanistan, Persia, Iraq, Turkey and the southern Balkan States. The passages through this mountain barrier are further limited by the Kara Kum desert northwest of Afghanistan, the Great Salt desert of Eastern Persia, the Registan desert of Southern Afghanistan and the Syrian desert between Iraq and Palestine.

There are thus only the following practicable routes of expansion southwards :—

- (1) From Russian Turkistan across the Hindu Kush by difficult passes to Kabul.
- (2) By the Herat gateway between the Elburz and the Hindu Kush. This gateway has to its north the Kara Kum desert across which the Russian railway runs, and the Great Salt desert of Persia to the west.
- (3) From the Caspian by road or the new railway to Tehran, or to Iraq, and thence to the Persian Gulf by the Tigris Euphrates valley.
- (4) From the Caucasus railways at Julfa to Tabriz and thence by difficult routes to Southern Kurdistan, Iraq and Persia.
- (5) By the Black Sea, Constantinople, the Bosphorus and the Dardanelles to the Mediterranean.

The countries most immediately concerned in the protection of these gateways are therefore Afghanistan, Persia and Turkey; but Great Britain, whose vital artery of sea communication to the East is flanked by these countries, would also be seriously affected by any expansion southwards.

The Russian advance to the Pacific, the development of Russian naval power in those waters, operating from the naval bases of Port Arthur and Vladivostok, the desire to obtain Korea, and interference in Chinese affairs were responsible for the Russo-Japanese War of 1904-5. The disasters of that war and the resulting increase of revolutionary trouble in Russia brought the policy of advance to a standstill for a time. Thus the Anglo-Russian Convention of 1907 settled the status of Tibet as a buffer between Russia, China and Great Britain : it fixed the status of Afghanistan as a buffer state between India and Russia, and arranged that its political relations should be conducted through the British Government. Persia was divided into three zones, a northern zone, including

The Settlement of 1907

Tehran to be a sphere of Russian influence, a central or neutral zone, and a south-eastern zone, including the frontier of Baluchistan and the coastline from India to the mouth of the Persian Gulf, to be a British sphere of influence. For ten years onwards from this date the policy of penetration to the Indian Ocean was abandoned.

The dissolution of the Monarchy and the rise of Bolshevism

The revolution of March, 1917, in Russia, the abdication of the Czar, the short and ill-fated liberal government of Kerensky were followed by the revolution of November in the same year and the introduction into Russia of government by the Workers or "Proletariat." The country was reorganised as a federation of Soviet republics bearing the name of the Union of Socialist Soviet Republics (U.S.S.R.).

The reorganisation of Russian Turkistan

Once again a policy of advance or infiltration became evident. The absorption of Northern Mongolia and the development of new propaganda in China and Afghanistan are symptoms of this policy. In its pursuit, the reorganisation of the old province of Russian Turkistan into a number of Soviet republics, Turkmenistan, Uzbek, Tajikistan, Kirghiz and Kara Kirghiz play an important part. Each of these republics has been organised on an ethnographic basis, partly with the idea of establishing in each a strong national spirit, but chiefly no doubt to attract into the Soviet fold those parts of China, Afghanistan and Persia which are contiguous and inhabited by the same races as people the republics. Thus, that portion of Afghanistan which lies north of the Hindu Kush (Afghan Turkistan) is inhabited by the same races as dwell in the neighbouring Soviet states of Turkmenistan and Uzbek, and who like the inhabitants of these, are mainly Shiah Mohammedans, whereas the Afghans south of the Hindu Kush are mainly Sunnis.¹ There are thus natural bonds which might achieve an absorption of Northern Afghanistan; and by a similar method of infiltration of Soviet doctrine, aided by similarity of race, the Soviet republic of Kirghiz might enfold Chinese Turkistan (Sinkiang), with the result that Russia and India would be immediate neighbours in the region of Kashmir.

Russian Lines of communication to Afghanistan
(1) Rail and river

The most important routes by which Russia could move troops and material to the borders of Afghanistan are as follows:

¹ The Hazaras who are enlisted in the Indian Army are Shiahs.

- (1) Across the Caspian and thence by the Central Asian Railway to Merv, Bokhara or Tashkent.
- (2) By the Tashkent Railway from Orenburg to Tashkent, where it joins the Central Asian Railway. The railway, recently opened from Semi Palatinsk to Turkistan, which joins the Turkistan lines to the Trans-Siberian Railway (the Sib-Turk Railway) gives an additional line for the concentration of personnel and material near the frontier of Afghanistan.
- (3) By the Amu Daria or Oxus River which forms a useful subsidiary line of communication to the frontier of Afghanistan for the movement of small numbers of men, to the neighbourhood of Termez by river steamers.

From the main railway line two spurs run out to Kushk and Termez respectively, on the Afghan frontier, and form obviously the most practicable lines of advance towards India, through Afghanistan. The Russian railheads of Andijan and Pishpek about 100 and 200 miles from the Sinkiang frontier, also deserve notice. From Andijan runs the famous route by Irkishtam to Kashgar and Yarkand, and thence by the Kara Koram Pass to Leh in Kashmir. This route presents so many physical difficulties, however, that it is completely impassable for the movement of a large force.

Air routes, heavily subsidised by the Russian Government, (2) *Air routes* carry out the following services with fair frequency :—

- (1) Moscow via Karkoff, Mineralonjrevodi, Derbent and Baku to Enzeli, a route which may in course of time be extended to Turkistan and Afghanistan.
- (2) Chimbai (near the south end of the Sea of Aral) via Khiva and Kagan to Dushambe, near Termez.
- (3) Tashkent via Termez to Kabul. This route was maintained with fair regularity by Afghanistan and Russia jointly until the recent troubles.

AFGHANISTAN IN RELATION TO THE NORTH-WEST FRONTIER

The Afghans occupy a region roughly quadrilateral in shape with an area of about 220,000 square miles. If the diagonal of this quadrilateral be drawn from the

north-east corner (the Wakhan) to the south-west, it will run approximately through the capital, Kabul. Along part of this diagonal lies the great mass of the Hindu Kush mountains, the main watershed of the country. At a point about 60 miles to the north of Kabul these mountains change their course and take a more westerly direction, breaking up eventually into the Koh-i-Baba range, and later into the Band-i-Baba Range.

To the north of this watershed lies a difficult mountainous country dissected by narrow gorges, through which run the tributaries of the Oxus, and finally, farther north still, the more level country of the valley of the Oxus river. To the south of the watershed is country which drains either into the Indus or the river Helmand. In this southerly region lie Kabul, Ghazni, Kandahar, and the heads of all the important passes from Afghanistan into India. If now, the other diagonal of the quadrilateral is drawn, from the north-west corner of the country to New Chaman in the south-east, it divides Afghanistan roughly into the excessively mountainous part and the more level plateau of the south-west.

Rivers

The rivers of Afghanistan are worthy of mention because important routes in many cases follow them. To the north of the main watershed, the Hindu Kush, are the following :—

1. The Oxus (Amu Darya) which rises in the Pamir Plateau, forms the northern boundary of Afghanistan to the neighbourhood of Kilif where it turns in a north-westward direction and flows into the Sea of Aral. It is navigable for small steamers as far up stream as Termez.

2. The Murghab rises on the northern slopes of the Koh-i-Baba range and flows into the Kara Kum desert where it dries up. It is along this river that the railway from Merv to Kushk Post runs.

3. The Hari Rud flows westwards from the Koh-i-Baba to the neighbourhood of Herat, where it turns northwards and eventually dries up in the desert near Tejend. The road from Tejend via Zulfikar to Herat and thence to Kabul follows this river for a considerable part of the way.

To the South of the watershed are :—

1. The Kunar which rises in the Pamir Plateau and meets the Kabul near Jelalabad.

2. The Kabul River which rises in the Hindu Kush west of Kabul and flows past Jelalabad through a narrow gorge to Nowshera and thence to Attock where it joins the Indus.

3. The Helmand which rises in the Koh-i-Baba Range and flows southwards through semi-desert to the fertile plain of Seistan where it disappears in marshes.

The Registan desert to the south and west of Kandahar *Deserts* should be noticed, as it confines routes from Herat via Farah to Kandahar to a comparatively narrow strip between the desert in the south and the high ground to the north, and makes Kandahar an important land gateway. In fact, the stretch of country between Farah and Girishk on the Helmand is almost waterless and would prove a formidable obstacle to an army using the Herat-Kandahar road.

Roads suitable for motor transport or even for wheeled *Roads* vehicles are very few. They are generally so covered with loose boulders that only pack transport is practicable, and most of them are blocked with snow for some portion of the year.

The most important are as follows :—

1. From Russian Turkistan.

- (a) From rail at Askabad through Persia via Meshed to Herat.
- (b) From rail at Merv via Zul'fikar along the valley of the Hari Rud to Herat, and thence by a difficult track, unsuitable for large armies to Kabul (250 miles).
- (c) From railhead at Kushk Post over the Ardawan Pass (70 miles) to Herat by a road now suitable for mechanical transport.
- (d) From the Termez railhead via Haibak and the Ak Robot Pass or via Kunduz and the Khawak Pass to Kabul. These routes have been recently surveyed for motor roads, but are not at present suitable for M.T. The passes in the Hindu Kush are over 11,000 ft. and only clear of snow for a few months in the year.

2. From Afghanistan into India.

- (a) Kabul to Landi Khana suitable for motor transport and thence by motor or rail to Peshawar (150 miles).
- (b) Kabul to Parachinar (100 miles) by the Shutargardan Passes—a camel road, blocked by snow during the winter.
- (c) Ghazni to Parachinar by the Mirzakai Pass—a camel road, closed by snow in winter.
- (d) Ghazni to Matun and Thal via the Khiddi Ghakhai Pass—a camel road, closed by snow during the winter.
- (e) Ghazni to the Tochi Valley by the Kotanni Pass—a camel road.
- (f) Ghazni to the Gomal by the Sarwandi Pass—a camel road.
- (g) Kandahar to New Chaman and Quetta, suitable in parts for mechanical transport.

In addition to the above, the following are very important :

- (1) The road joining Kandahar to Ghazni and Kabul (330 miles) which is suitable for wheeled vehicles and open throughout the year.
- (2) The road from Herat through Farah and Girishk to Kandahar (530 miles). This road passes through the less mountainous part of Afghanistan, and is at present, from the physical point of view, the least difficult for the movement of troops, but has a long waterless stretch between Farah and Girishk.

*Possible
Russian
routes
through
Afghanistan*

From the foregoing it is evident that the most important routes from Russian Turkistan to the frontiers of India are as follows :—

- (1) From Askabad through Eastern Persia to Meshed and thence either to Herat and through South-Western Afghanistan to Kandahar; or from Meshed by the caravan route to Seistan and thence through Southern Afghanistan or Baluchistan to the neighbourhood of Nushki, along the Duzdap-Quetta railway.
- (2) From Merv or Kushk to Herat and thence by Farah and Girishk to Kandahar—a difficult route owing to the waterless stretch between Farah and Girishk.

- (3) From the Oxus at Termez by the Ak Robat or Khawak Passes (11,600 feet) to Kabul.

If the last mentioned are converted into motor roads and can be kept open throughout the year, they would probably be the most satisfactory for a force moving towards India from Russia.

Not merely are communications difficult, but there is a *The Pro-* variety of races in Afghanistan. Thus the provinces of *vinces and* Badakshan and Afghan Turkistan to the north of the Hindu *races of* Kush are inhabited by Tajiks, Uzbeks and Turkomans who are *Afghanistan* of the same races as inhabitants of the Soviet republics lying north of them across the Oxus; and the province of Herat in the north-west corner is peopled by Turkoman tribes of mixed origin. All these are mainly Shiah Mohammedans. South of the Hindu Kush the province of Kabul and Khost has the very large tribe of Ghilzais, the camel owners and carriers of Afghanistan round Ghazni, Shinwaris and Mohmands round Jelalabad, Hazaras, in the mountains of Central Afghanistan and Mangals in Khost. In the provinces of Kandahar and Farah the Durani are the ruling tribe (the King of Afghanistan belongs to the Durani). The people of these southern provinces are mainly Sunni Mohammedans.

The lack of unity among the various tribes, their innate objection to law and order, and the sharp divisions in race, language and religion between those situated north and south of the Hindu Kush make the internal government of the country very difficult and its union, in face of a common enemy, somewhat problematic.

The chief towns and garrisons of Afghanistan are :—

(1) Kabul—the capital, 6,000 feet above sea level, 190 miles *The chief* from Peshawar, through the Khaibar Pass, 230 miles from *towns and* Kohat through the Kurram, 300 miles from Kandahar via *garrisons of* Ghazni and 450 miles from Quetta. It is connected by tele- *Afghanistan* phone with Peshawar, possesses an arsenal for the manufacture of field guns and small arms, and an aerodrome.

(2) Jelalabad and Dakka, garrisoned towns on the Kabul-Peshawar road.

(3) Ghazni—7,300 feet above sea level on the main road between Kandahar and Kabul and 130 miles from Bannu.

There are garrisoned posts at Ali Khel near Paiwar, Urgan at the head of the Tochi and Matun in the province of Khost.

(4) Kalat-i-Ghilzai on the Ghazni-Kandahar road.

(5) Kandahar—3,500 ft. above sea level, 150 miles north-west of Quetta, with an outpost at Baldak Fort a few miles from New Chaman.

(6) Herat—the commercial capital of Afghanistan, situated in the Meshed Herat gateway between the Hindu Kush and Elburz mountains, defending the entrance into South-Eastern Afghanistan. It is 3,000 feet above sea level and 70 miles from the Russian railhead at Kushk Post. It is the junction of routes from Merv, Meshed, Kabul and Kandahar.

(7) Mazar-i-Sharif in the province of Afghan Turkistan, 40 miles south of the Russian railhead of Termez.

(8) Faizabad in the province of Badakshan guards the difficult route from the Oxus to Chitral by the Dorah Pass.

*The modern-
ization of
Afghanistan*

Prior to the recent troubles in Afghanistan, a process of modernization was taking place. The army had been fitted with some modern equipment and a few aeroplanes; and aerodromes had been established at Kabul, Kandahar and Jelalabad. The routes for a number of motor roads and railways the most important of which were roads from Termez to Kabul, and Herat to Kandahar, were being surveyed by French and German experts. Telegraphic communication had been established from Kushk to Herat, and the construction of telegraph lines from Kandahar to Kabul and Kabul to Herat was in progress. The internal troubles of 1928–29 have, no doubt, greatly delayed this process of development.

*Afghanistan
in relation to
British India*

Afghanistan became politically independent of British control by the treaty following the last Afghan War, but British influence remains paramount owing to the fact that we are the most stable and wealthy of its neighbours. Relations, however, from time to time have been strained by the sheltering in Afghan territory of gangs of murderers responsible for outrages on the Frontier. British interests will be best served by the development of a strong government in Afghanistan, capable of maintaining order among the various tribes on its side of the border, and competent to deal with any

threat of invasion into its northern provinces, or any possibility of those provinces being absorbed by the Soviet Republics to the north. Further, it is desirable that any development of communications which may take place should be accompanied by a corresponding increase in the strength and efficiency of the central government, so that if the routes from Russia to India are made suitable for the passage of large armies the government of Afghanistan may be strong enough to defend them.

THE DEFENCE OF THE FRONTIER

From this brief summary of the geographical aspect of the North-West Frontier and Afghanistan, it will be seen that the problem of defence is twofold. It must aim at protecting the plains of India from marauding tribesmen of the frontier province, while keeping the passes into Afghanistan open as far as possible for the movement of trade and forces. In the second place, it must deal with the security of India against invasion by some large military force.

The former is the more important and ever present problem, and attempts at its solution have given rise at various times to three policies in connection with the affairs of the North-West Frontier. These policies are described as the "Close Border Policy," the "Forward Policy," and the "Half Forward Policy."

The "close border policy" aims at avoiding all commitments in the country beyond the administrative boundary. It would therefore hold a line along the foothills, allowing the tribesmen to carry on their accustomed existence beyond that line, but preventing them from entering the fertile plains of north-west India. This would entail permitting them to close the passes when they pleased, and to rob, blackmail, levy tribute, or murder in the avenues of trade through their country. It would also mean leaving, between ourselves and Afghanistan, a number of brigand tribes who are, strictly speaking, within our political sphere. Should these tribes raid Afghanistan, that country could demand reparation, or, failing that, might even cross the boundary to retaliate, and thus endanger the relations between ourselves and Afghanistan, and lower our prestige in the East.

*The "Close
Border
Policy"*

Supporters of the "close border" policy point to the fact that the hillsmen of the North-West Frontier are better armed and more formidable than they ever have been previously. To attempt to control the frontier or even keep garrisons at important positions in the interior of Waziristan, they argue, tends to provoke trouble difficult to quell, and entails measures for the rescue of these isolated garrisons which are troublesome and expensive. The best policy, they suggest, is therefore to leave the tribes as far as possible to themselves, but to help all groups and individuals among them who are disposed to be peaceful and friendly to us, by moral and reasonable financial assistance. At the same time, we must retain the right of retaliation against tribes who have committed outrages in our territory or harboured outlaws. This retaliation might take the form of raids or expeditions, the seizure of hostages or property, the closing of our administrative frontier to trade with the tribesmen concerned, or other forms of economic blockade. Also the policy must be supported by the strengthening of our defensive positions, the increase of constabulary and police and the improvement of lateral communications.

*The
"Forward
Policy"*

The aim of the "Forward policy" is to hold and administer up to the "Durand Line." The obvious objection to such a policy is that the concentrations of tribes could amount to 200,000 armed men, all skilled in hill-fighting, and that it would require more troops than are available to hold the "Durand Line," keep order in the region, and maintain our lines of communication.

It would, moreover, require a long, slow and expensive advance with the building of many roads and railway lines, and it is questionable whether successive Indian Governments would be inclined to agree to the expenditure of so much money for military purposes.

On the other hand it is argued that if this region were controlled, administered and developed the people would be disarmed and then settle down as they have done in Baluchistan, where Sir Robert Sandeman carried out the forward policy; that its resources in copper, coal and oil, if developed, would probably pay for the cost of occupation and that the highlands of this region are healthier spots for cantonments

than the plain of the Indus, where casualties from heat and disease are excessive.

A modification of the "Forward Policy" is at present in operation on the Frontier. No attempt is made to occupy or administer the region as a whole, but some degree of political control is achieved by means of political officers who act through the "jirgahs" or tribal councils. The political officers are backed, in the maintenance of order, by Scouts under British officers,¹ and by irregular levies (Khassadars) who supply their own rifles (so that there is no danger of a constant flow of British weapons into an unruly country). Their hands are further strengthened by the improvement of communications and the establishment of regular garrisons at strategic points in the frontier region.

The "Half Forward Policy"

Aircraft also play some part in the punitive measures which may be necessary against disturbers of law and order. They can be used as bomb-dropping vehicles in order to break up concentrations or execute punishment against refractory villages, but in these operations they are handicapped by the nature of the terrain which provides ample cover to which the tribesmen can retire temporarily at the threat of an air raid. As vehicles for rapid movement and for reconnaissance they are of great importance.

The Use of Aircraft.

The "half forward" policy is of particular interest and importance in relation to Waziristan, for which it was adopted after the war of 1920. No attempt has been made to occupy the whole of this area, but it is kept under effective control by means of :—

The Policy in Waziristan.

- (a) The Frontier Scouts and Khassadars.
- (b) A backing of Regular troops stationed chiefly at two important centres, Razmak and Wana.
- (c) The domination of the Mahsud country by the circular M.T. road which has been described.

¹e.g. The Chitral Scouts at Chitral.

The Kurram Militia at Parachinar.

The Tochi Scouts at Miramshah.

The South Waziristan Scouts at Jandola.

The Zhob Levy Corps and the Makran Levy Corps.

They are organised on a battalion basis.

- (d) A general policy of road building which tends to promote trade and civilizing influences throughout the whole region.

*The economic
future of the
Frontier*

Indeed, this policy of road construction is doing a great deal towards the civilising of the tribes of the Frontier. Contracts for road making have brought money to the pockets of the tribal heads, and rendered constant raids unnecessary to their existence. The money obtained for road making has been expended to some extent in social amenities such as the Ford Car, the Picture House and the Gramophone. The roads themselves are becoming means of communication for trade and not merely for the movement of fighting personnel. In some parts of the Frontier an interesting convention has arisen which illustrates their value as a means of introducing the *pax Britannica*. The roads themselves and a narrow zone on each side are regarded as territory in which tribal blood feuds may not be carried on—territory sacrosanct to civilization.

This pacification of the Frontier opens, however, a new volume of problems. The disappearance of tribal feuds and lawlessness may be expected to be followed by an increase in population and a growing desire for comfort. How is the first to be supported and the second to be satisfied in a region which has never yet been able to provide sustenance for its inhabitants? Contracts for road building must sometime come to an end.

Pathan emigration to India or other parts of the Empire can hardly be regarded as a solution. India is already too densely populated, as is evident from the low standard of life, the susceptibility to epidemics and the average low longevity. Emigration to other tropical parts, such as Africa or Queensland would create problems with the indigenous populations and in the latter case would be strongly opposed by upholders of "the white Australia" policy. The solution must therefore be internal and the development of the mineral and agricultural resources of the Province will become increasingly necessary. No complete survey of the mineral resources has yet been made owing to the unsettled nature of the country, but coal and iron are said to be present, and the oilfields at Attock suggest the presence of oil in other

neighbouring parts. The great oil belt which extends across Europe and Asia from Galicia to Burma may have potential fields in the North-West Frontier Province.

Agricultural resources also can, no doubt, be increased. Fruit farming in the higher valleys and irrigation in other parts may help to make the region more nearly self-supporting. But these developments must obviously be contingent in a large measure on settled conditions not merely in the North-West Frontier itself but also in the parts of Afghanistan which are contiguous to it.

The second problem of defence is that of security against *Security against invasion* invasion by a power such as Russia. In the face of an attack of this nature, there are three necessities in connection with the defence of India. In the first place, the security of the base of supplies must be assured—the base under the circumstances, being India. Unrest, revolution, or even action concerted with the invading power might arise, requiring troops to maintain order and safety for the movement of supplies and men to the main theatre of operations. The first essential is therefore *an internal security force*. In the second place, there are the passes in the frontier to be guarded, and lines of communication through this difficult country to be maintained, for which duties *a covering force* is required. In the third place, there must be *the field army* to take the offensive in whatever theatre of operations is selected.

The possible lines of advance from the Oxus through Persia or Afghanistan have been pointed out. An advance through Kashmir, Chitral or Baluchistan is highly improbable; in the first two cases because of the difficult natural obstacles to be overcome; in the last case because of the length of the line of communication. To meet an attack there are various suggested lines of defence. *The possible lines of defence against a major attack*

(1) The first possibility would be to take the Indus as the main line of defence, and if necessary fall back from it into the bottle-neck between the Thar Desert and the Himalayas, north of Delhi, as a second line. Such a line, however, is open to very serious objections. If the Afghans were our allies—as presumably they would be, their own country being invaded by Russia—our line along the Indus would leave them

isolated, and give Russia time to consolidate herself in the country. Further, the loss to British prestige would be most damaging.

(2) To hold the passes in the belt of mountains of the North-West Province from Chitral to Karachi. This also has the objection that Russia would be able to consolidate herself in Afghanistan, build railways, and eventually bring forces which might be difficult to repel.

(3) To take an advanced line beyond the frontier which would enable us to unite with the Afghans, guard some of their most important towns and maintain the security of the chief lines of communication with India. The line of defence in this case might be a Kabul-Ghazni-Kandahar line, lying across the heads of the important passes of the frontier, and also in a position to engage the Russians advancing either through the Hindu Kush, or from Herat. The height of the passes across the Hindu Kush (11,000 feet), would add greatly to the difficulties of movement of the enemy and would counter-balance the slight advantage in distance which the following table suggests :

Termez via Haibak to the Ak Robat Pass ..	220 miles
Landi Khana ,, ,, ..	315 ,,
Termez via Kunduz to the Khawak Pass ..	260 ,,
Landi Khana ,, ,, ..	295 ,,

Girishk on the Helmand, at the southern extremity of this line of defence is 386 miles from Herat and only 147 miles from the British railhead at Chaman ; while a Russian force approaching it would have to cross the waterless stretch of 150 miles from Farah to Girishk.

*Time and
Transport*

The chief factors in the success of an attack on India are time and transport. Afghanistan is a country with not more than half-a-dozen roads, in any sense suitable for armies or the movement of material, and is completely without railways. The building of the necessary roads and railways can only be accomplished very slowly, and until these lines of communication are made, no attack in force against Kabul or Kandahar from Russia is likely.

Time and transport are the chief factors for the defence.

also—time to mobilize the field army in India, and to move it to the theatre of operations, and transport to convey supplies along the extended lines of communication passing through difficult and possibly unruly country. Railway transport to railheads would be slow, owing to the distance traversed, changes of gauges, shortage of rolling stock, extremes of climate, inexperienced personnel on the railways, and the steep gradients. The important line, from Quetta to New Chaman, the main route to Kandahar, has only a very limited capacity owing to the Khojak tunnel, through which large trains cannot be sent owing to the gradient and bad ventilation. Further, the remainder of the lines of communication from railhead would necessarily be over roads, almost impossible for motor lorries.¹ Some form of caterpillar tractor might solve the difficulty when the present road system has been more fully extended.

It can be said in conclusion that the defensive strength of Afghanistan and the security of British India to a great extent rest on the lack of rapid means of communication in the former country; and that the building of railways there would greatly increase the strategic difficulties of the defence of India in the future, unless it is accompanied by a corresponding increase in the strength and efficiency of the Afghan Government to defend itself against Russian invasion.

THE NORTHERN FRONTIER

The Northern Frontier is admirably protected by nature; the swamps and jungle at the foot of the Himalayas, the friendly and warlike native states of Nepal, Sikkim and Bhutan, the treble barrier of the Himalayan wall, and the high, partly unmapped, cold plateau of Tibet (15,000 ft.) make a defensive system unequalled in the world. The most important trade route from India to Lhasa runs through Sikkim (the Chumbi valley),¹ but the altitude of its passes (18,000 ft.) are so great that it could not be used by any large invading force against serious opposition.

Further to the east lie the territories of mountain tribes of

¹ It is calculated that the railway could be extended from New Chaman to Kandahar in three months.

Tibetan type, the Akas, Daffas, Miris, Abors and Mishmis having their home in a wild region almost unsurveyed and not crossed by any route of great importance. From the neighbourhood of Sadiya to the Chinese frontier no definite boundary has yet been drawn.

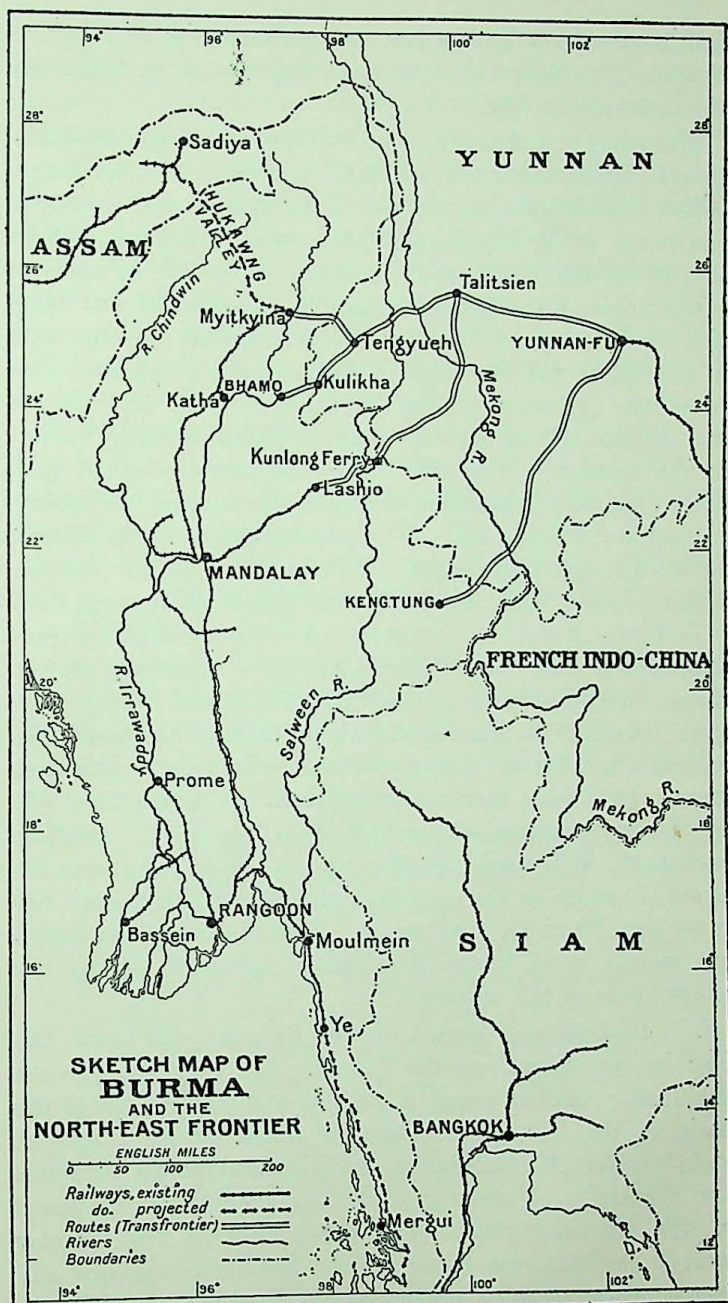
BURMA AND THE NORTH-EAST FRONTIER

The Province of Burma, the basin of the Irawaddy and Salween Rivers, is divided for the purposes of administration into Upper Burma and Lower Burma, with a total area of 270,000 square miles and a population of 13 millions. Its most important physical characteristic is the series of almost parallel mountain ranges which run southward from the eastern end of the plateau of Tibet, between which run great rivers. The most westerly of these rivers, the Irawaddy, rises in the confused mountainous region to the north of Burma, and flows south to its delta, through a broad plain bounded on the west by the Chin and Arakan hills and on the east by the Shan hills and plateau and the Pegu Tomas. To the east of the Irawaddy runs the much shorter Sittang river, which rises in the Shan hills and flows south between the Pegu Tomas and the hills of Karenni. Further east still, the Salween, a great and for the most part unnavigable stream, flows in a narrow basin between high ground on both sides. The Mekong, which rises in Tibet touches Burma, and is the boundary for about 110 miles between this Province and French Indo-China.

Communications 1. *River*

Owing to this configuration, by which rivers and mountain ranges lie mostly in a north and south direction, communications are easiest in these directions; and much use is made of the rivers for this purpose. On the Irawaddy, which is the chief line of communication in the country, a regular fleet of steamers runs as far north as Bhamo throughout the year, and even further when the river is not in flood. Its most important tributary, the Chindwin, is navigable for small steamers as far as Homalin; and stretches of the Salween

¹ The route followed by the Younghusband mission to Lhasa. The other chief routes into Tibet are (1) via Almora, (2) via Simla, (3) via Srinagar and Leh.



can be used for navigation. A noticeable feature is the absence of bridges and consequent dependence on ferries on the Irawaddy and Salween.

Rail

The main line of the Burma Railway (metre gauge) starts from Rangoon and strikes north to the Irawaddy at Mandalay (where there is a steam ferry across the river) and whence lines run north to Myitkyina and north-east to Lashio. Three interesting features require mention. The lack of railway communication to Bhamo, an important post near the frontier, the nearest railhead to which is Katha, is important in relation to the questions of defence of this frontier. The proposed Hukaung valley railway to join the Burma and Assam railway systems between Myitkyina and Makum is the second. The third point of interest is the lack of any railway connection between Burma and the Malay peninsula at present, and the proposal to extend the line which runs to Ye, further to Mergui, and eventually to effect a junction with the line which runs southwards from Siam to Singapore.

3. Roads

In Lower Burma the waterways are largely used for communications and there is consequently a scarcity of motor roads. One notable instance of this is the lack of a motor road from Rangoon to Mandalay. In the upland and mountain regions a number of roads have been constructed. The most important of these from a military point of view are the roads which carry communications from the railheads to the frontier, such as the M.T. road from Maymyo to Lashio and thence for about 40 miles in the direction of Kunlong Ferry, and the route from Bhamo to the frontier. Most of the roads in Burma are merely mule tracks practically impassable during the heavy rains of the monsoon.

Races

The chief races of Burma are the Burmans, the Chins, the Kachins, the Shans and the Karens. The Burmans who are Buddhists, number about 8 millions and live chiefly in the basin of the Irawaddy. They are quick witted, intelligent and attractive, but temperamentally unsuited to the strictness and regularity of army life, and are therefore not enlisted in the Burma Rifles. The Chins inhabit the country west of the Chindwin River. They are, in appearance and mental characteristics, not unlike the Gurkhas, are Animists in religion and number about 300,000. They are enlisted.

The Kachins who live in the frontier region to the north and east of Myitkyina are perhaps the most warlike of the races of Burma. A punitive expedition was carried out against them in December 1914, and January 1915, but since then they have settled down and are enlisted in the army. They are small in stature, good fighters with a keen sense of humour and amenable to discipline. They number about 290,000.

The Shans who inhabit the Shan States on the eastern frontier are Buddhists, and number about one million. They are mostly a quiet simple folk, not enlisted in the army, and administered by their own hereditary chiefs or Sawbwas, assisted and advised by British officers.

The Karens occupy the five native states of Karenni and, like the Shans, are ruled by their own chiefs with the advice of a British Political Officer. Originally Animists, they have become ready converts to Christianity, through American mission schools. They are smart in appearance, intelligent, and good athletes, and are enlisted. Their population is about 1,250,000.

The defence of Burma has an intimate bearing on Imperial *Defence* defence because it is one of our chief sources of petroleum within the Empire, and also because of its comparative proximity to the naval base at Singapore. Its problems of defence are in relation to the following :—

- (a) Defence of sea communications, which depends on the general naval position in the Indian Ocean and on the security of the Straits of Malacca.
- (b) The defence of Rangoon which, owing to the physical configuration of the country is the entrance and base of operations. The communications by rail and river northwards are therefore of great importance, and the construction of motor roads to supplement existing communications is very desirable.
- (c) Internal security, which, as in India, requires consideration. Sabotage in the oil fields at Yenangyang or destruction of the pipe line to Rangoon, would be matters of Imperial concern.
- (d) The North-East frontier, which will be dealt with in a separate paragraph.

Burma, for purposes of military administration, is an independent district under Army Headquarters, India, with headquarters at Maymyo. Garrisons are maintained at Rangoon, Mandalay and Port Blair.

The Burma Rifles are recruited in Burma from the races enumerated previously, and in addition a Burma Military Police Force exists, consisting chiefly of Indian personnel with a sprinkling of Kachins and Karens, the battalions being commanded by officers of the Indian Army.

*The North-
East Fron-
tier*

The frontier of Burma borders for 370 miles on Siam, for 130 miles on Tonking and for 1,000 miles on the province of Yunnan in China. Siam, however, is a small friendly state, and Tonking is a French colonial possession dependent for its security and striking power on sea communications with France. Out of the remaining thousand miles only one section requires serious consideration. This is the region which lies between the junction of French Indo China, Burma and Yunnan (about Lat. $21^{\circ} 30' N.$) and Lat. $26^{\circ} N.$ To the north of this, the frontier runs through country which is almost inaccessible, and, in fact, the boundary is undemarcated from about Lat. $27^{\circ} 50'$ northwards.

The section between $21^{\circ} 50'$ and $26^{\circ} N.$ is crossed by a few routes. Three of these radiate from Tali Hsien in Yunnan to Myitkyina, Bhamo and Lashio respectively. The first, which is the chief trade route, runs from Myitkyina through Sadon (Fort Harrison) and across the Kam-bai-ti Pass (8,000 feet) to Tengyueh, a distance of 110 miles, and thence to Tali-Hsien. The second starts from Bhamo on the Irawaddy, crosses the frontier at Kulikha and so on to Tengyueh (160 miles). The third route starts at Mandalay follows the railway to Lashio, then goes by cart road to Kunlong Ferry where it crosses the frontier and thence proceeds to Tali-Hsien (200 miles). None of these routes, however, is at present more than a rough cart road, in parts suitable only for pack transport, and when they cross the Chinese frontier, they degenerate still further. As lines of military advance from China they could only be used by very small columns of troops. In addition the frontier region is extremely difficult. The passes are high; the country covered in parts with thick jungle. Two great rivers, the Mekong and Salween, run through Chinese territory

parallel and close to the frontier and their deep gorges are crossed by few bridges suitable for more than pack transport. The whole province of Yunnan has only one line of railway which runs from Yunnanfu to Hanoi, and which is therefore useless for a concentration of troops near the frontier which, at its nearest point, is 300 miles from the railway. The province of Yunnan itself, is not densely populated (about 50 people to the square mile) and its communications with the rest of China are long and difficult. The probability of any serious advance being made towards the Indian Ocean on this front without a long period of preliminary preparation is therefore extremely remote.

Nevertheless, it is desirable to notice certain weaknesses in our communications. The lack of a M.T. road from Rangoon to Mandalay and of any connecting link between the Indian and Burma Railway systems, already referred to, would delay a concentration of force at Myitkyina, Bhamo and Lashio. Further, communications between Mandalay and Myitkyina are dependent during the rains on a single line metre gauge railway ; while Bhamo our post on one of the most important transfrontier routes has neither through rail nor road communication with Mandalay.

Up to the present the transfrontier routes are mere un- *The Future*
metalled tracks cutting across the natural grain of the land, and the construction of railways along these routes would entail engineering works of the first order of difficulty. If, however, such railways are constructed, or roads are developed, the markets of southern China might be tapped towards Burma, and Rangoon might absorb much of the trade which at present flows towards the French ports of Indo-China, and even some of that which moves to Hong Kong. The long sea passage round by Singapore would be avoided, and with the development of the great mineral and agricultural possibilities of Yunnan, Rangoon would rapidly become one of the most important ports for Chinese trade with India and Europe.

It may be noticed, however, that railway construction from the centre of Yunnan is easier when carried eastwards or southwards following the valleys of the many rivers which flow towards the Pacific Ocean, than westwards, across the parallel ranges to the Bay of Bengal.

NOTE ON THE NATIVE STATES OF THE NORTHERN FRONTIER

Kashmir, Nepal, Sikkim and Bhutan form a buffer between India and Tibet except where the boundaries of the two countries coincide in the region of the Kumaon Hills.

(1) *Kashmir* lies between the Indus and the Ravi and is a mountainous country intersected by high valleys of great beauty and fertility. Through it runs one of the most important routes to Tibet (via Ladakh), and its proximity to Russia and Tibet makes it of particular importance and interest. The Maharaja rules through his ministers, and is advised by a British Resident at Srinagar (the capital), representing the Government of India. There is also a political agent at Gilgit responsible for the administration of outlying petty states and another at Leh to supervise the Central Asian trade routes. The fighting forces are composed chiefly of Rajput Dogras of excellent fighting qualities.

(2) *Nepal* is about 500 miles long, has an area of 54,000 square miles and a population of about $4\frac{1}{2}$ millions. It is an independent native state, the British Resident at Khatmandu taking no part in the internal administration. The Government of the country by constitutional usage is in the hands of the Prime Minister, the Sovereign or Maharaj Dhiraj being regarded as a dignified figure-head.

Nepal is the home and recruiting ground for the splendid Gurkha Infantry Regiments of the Indian Army, and has since 1816 maintained eminently friendly relations with the British Government, evidenced by the spontaneous help given during the Great War. It has an army of 45,000.

(3) *Sikkim*, north of the district of Darjeeling, forms the direct route to the famous Chumbi Valley in Tibet. It is in close relations with the Government of India, and a political officer at Gangtok assists and advises the Maharajah. The population consists of Bhutias, Lepchas and Nepalese.

(4) *Bhutan*, extends for 200 miles along the southern slopes of the Himalayas, has an area of 18,000 square miles and a population of 300,000, mainly Buddhists. In 1910 the Government of India, in view of Chinese aggressions in Tibet, increased the subsidy to Bhutan to a lakh of rupees a year, and agreed not to interfere with the internal affairs of the country provided Bhutan undertook to be guided by the Government of India in regard to its external relations.

The military forces consist of local tribal levies of not much military value.

THE ARMY IN INDIA

Post-War
Reorganisa-
tion
General
Principles

Following the war, partly because of financial stringency which limited India's financial capacity to bear the new expenditure entailed by a higher standard of preparation for modern warfare, and partly because the protection of the North-West Frontier had become a more formidable problem owing to the better armament of the frontier tribes, a reconstruction of the Army in India was embarked on in 1921.

The general lines of this reconstruction were the result of a number of important considerations of which the chief were as follows:—

- (1) An improved system of command and distribution of troops.
- (2) The organisation and equipment of the Army in accordance with modern European standards.
- (3) The maintenance of machinery in peace to provide for reinforcement and rapid expansion in war.

The method by which these considerations have been put into effect will be described briefly in the following paragraphs.

Ultimately, as the defence of India is a permanent problem of 1. *The Chain Imperial strategy, His Majesty's Government in London through the of Adminis-* Secretary of State for India bears a special responsibility and authority *tration since* in regard to the military administration of India. The Secretary of 1921. State's principal adviser on Indian Military affairs is the Secretary in (a) *Military* the Military Department of the India Office, an officer of the Indian *Secretary,* Army of high rank, who is expected to visit India during his tenure of *India* office in order to keep in touch with Indian affairs. In addition, a *Office* retired Indian Army Officer of high rank has a seat upon the Secretary of State's Council.

The next authority in the chain of administration is the Viceroy's Executive Council which exercises control over Army expenditure and military policy. On this Council the Commander-in-Chief of the Army (b) *Com-* in India sits as the Army Member. He is the sole Military Adviser *mander-in-* of the Government of India, responsible in the Executive Council for all *Chief India* army affairs and for the supreme direction of any military operations based upon India. In addition he administers the Royal Indian Marine and the Royal Air Force in India.

The Commander-in-Chief is assisted in his administration of the Army (c) *Army* by the three principal staff officers, the chief of the General Staff, the *Headquarters* Adjutant General in India and the Quartermaster General in India, and by other staff officers administering minor branches at army headquarters, namely the Military Secretary, the Master General of Ordnance and the Engineer-in-Chief.

These staff officers are responsible not merely for the carrying out of (d) *The* their ordinary staff duties, but also for initiating and pursuing, under *Army* the direction of the Commander-in-Chief, proposals for better military *Department* administration which may require the decision of the Government of India or the Secretary of State. When such proposals are ready for submission to the Government, they first come before the Army Department which is one of the departments of the Government of India and for which the portfolio is in charge of the Commander-in-Chief who represents it in the Viceroy's Executive Council.

The Army Department has direct relations with Army Headquarters in all administrative matters. It consists of a Secretary, who is a civilian, and various assistants. The Secretary represents the Army Department in the Legislative Assembly.

The Commander-in-Chief is also assisted by a purely advisory body (e) *The* known as the Military Council, which consists of the Commander-in- *Military* Chief, the three principal staff officers, the Master General of Supply, *Council* the secretary of the Army Department and a financial adviser.

In order to avoid an undue centralisation of work, which would be particularly undesirable in India owing to the great distances and inferior communications, the country was divided in 1921 into a system (f) *System of* of four commands each under a General Officer Commanding-in-Chief. *Command* The commands coincide as far as possible for the sake of administrative *Subordinate* convenience with the main divisions of civil jurisdiction. Thus the *to Army* Northern Command with headquarters at Rawalpindi coincides roughly *Headquarters* with the Punjab and North-West Frontier Province: the Southern *The Four* Command with headquarters at Poona coincides with the Bombay *Commands* and Madras Presidencies, Rajputana and part of the Central Provinces: the Western Command with headquarters at Quetta covers Sind, Baluchistan, and the Zhob, and the Eastern Command whose headquarters are at Naini Tal coincides roughly with the Bengal Presidency and the United Provinces. Each of these Commands is divided into Districts.

Apart from the four Commands there is also the Burma Independent District which is controlled directly by Army Headquarters.

The Army in India is regarded as comprising three categories of troops:—

The Distribution of Troops

- (a) *Covering Troops* to deal with minor frontier trouble and form a screen behind which mobilisation can proceed undisturbed.
- (b) *The Field Army* or striking force which consists of four Divisions¹ and four Cavalry Brigades.
- (c) *Internal Security Troops* which are responsible for leaving the Field Army free in time of war to carry out its legitimate duties undisturbed by internal calls. In this connection it may be noticed that there are in India some 4,000 miles of strategic railways to be guarded and worked on mobilisation.

All these constituent elements of the Army are trained and organised on a uniform basis to permit of interchangeability.

The Equipment of the Army in Accordance with modern Standards and its Probable Rôle

The primary function of the Field Army in India being the defence of the North-West Frontier, the scale and type of its equipment must be considered in relation to a country which possesses few first class lines of communication. The military strength of the enemy striking in this theatre of operations must also be taken into account. In view of these factors, a lower scale of mechanical equipment is adopted for the Army of India than that accepted in the British Army.

Maintenance and Training of Reinforcements (a) British Troops

Reinforcements for a British Battalion of Infantry in India or other foreign stations are provided by drafts from the battalion at home. It has always been realised, however, that war might arise suddenly, and that such drafts could not become acclimatised and effective in a period under eight months. Consequently the principle is adopted of keeping British battalions in India rather over war establishment, in order to leave a balance to replace immediate wastage until the constant flow of reinforcements from the United Kingdom has become effective. In addition Indian personnel are now trained to create an additional source for war expansion. Thus in 1921 when the Machine Gun Corps was abolished the guns were included in the equipment of a British Infantry battalion. In India these guns are carried on mules which are driven, looked after and taken into action by Indian combatant personnel. The peace establishment of Indian combatants is fixed at 1 Indian Officer and 41 Indian other ranks. This Indian machine gun platoon is attached *en bloc* to a battalion, and, when that battalion proceeds on relief out of India, is transferred to another battalion. Men for it are recruited and trained at the Machine Gun Drivers' Training Company at Jullundur.

(b) Indian Troops

Indian Cavalry. The 21 regiments of Indian cavalry are organised in seven groups of three regiments each. In addition seven stations have been selected to permanent locations for regiments allotted to internal security duties, and one of these stations allotted to each group so that one of the three regiments of each group will always be located in a permanent regimental centre. On mobilisation a group depot will be formed at this station by the regiment stationed there who will be responsible for the training and supply of reinforcements to the whole group and also for internal security duties.

Indian Infantry. For the same purpose of producing some organisation for training and reinforcements, a training battalion system was introduced in 1921 for Indian Infantry Battalions. By this system the infantry battalions are linked in groups, one of each group being regarded as the training battalion and depot for the other battalions of the group both in peace and war. This training battalion contains one training company for each of the active battalions associated with it. The linking is made more real by the conversion of the groups into

¹ An Indian Division on field service consists of three Infantry Brigades, each of four battalions, usually one British and three Indian. There is no cavalry formation larger than a Brigade consisting of one British and two Indian regiments.

Regiments. This does not apply to the Gurkhas who are grouped but have no training battalion, and the 106th Pioneers¹ who also remain distinct from the group or regimental system.

Further, in order to keep reserves sufficient for the maintenance of units at full strength for the first eight months after mobilisation (the period necessary to train new recruits), a system of reserves is in operation. *Indian Army Reserve*

Service in the Indian Army reserve is compulsory, on all soldiers. On enrolment a man agrees to serve at least five years in the army and up to 15 years in combined army and reserve service, if required to do so.

There are 19 Indian mountain batteries composed almost entirely of Sikhs and Punjabi Mussalmans. In addition, so that batteries of Horse and Field Artillery could mobilise and be maintained until reinforcements from home arrive, each battery has 54 I.O.R.'s, who are drivers under an Indian officer. They are chiefly Sikhs and Punjabi Mohammedans. *Artillery*

The Tank Corps in the British Army consists of two distinct types of fighting machine—the fighting tank and the armoured car. *The Royal Tank Corps*

Experience has proved that the latter is of special value under Indian conditions for the interception of raiders, the protection of convoys and for assisting the civil power in the case of local outbreaks such as that in Malabar where large tracts of road or railway have to be patrolled. For work of this character armoured cars are cheaper and more efficient than cavalry. The tank, on the other hand, has not yet proved itself reliable under Indian conditions of temperature and ground. The Royal Tank Corps in India consists therefore of eight Armoured Car Companies only. Each Company has three sections of four cars, and each section is divided into subsections of two cars. The subsection is the smallest unit, as it is tactically unsound to use a single armoured car independently, cars invariably working in pairs to give mutual support.

A Corps Headquarters and Royal Tank Corps School are maintained at Ahmednagar.

OTHER FORCES

The Auxiliary force, which is a voluntary force, limited to European British subjects who carry out some military training, has the rôle of assisting in home defence in cases of emergency. Only local military service can be demanded of it. *(1) The Auxiliary Force and Indian Territorial Force*

The Indian Territorial Force consists of University Training Corps Battalions and Provincial Battalions. The Provincial Battalions are affiliated to Regular Indian Regiments, as in the case of the British Territorial Force. Service is for six years, during which every man receives 28 days training each year.

The Indian State forces are military forces raised and maintained by the Rulers of Indian States, and formerly known as "Imperial Service Troops." These troops have been from time to time lent in emergency to the Government of India, but their usefulness, though great, has been lessened by the dissimilarity of their training and equipment. *(2) The Indian State Forces*

To overcome these difficulties and assist the chiefs in the organisation and training of their forces there is a Military Adviser-in-Chief at Army Headquarters and all the important states have Military Advisers who are officers of the Indian Army or R.A.

THE ROYAL AIR FORCE IN INDIA

The Royal Air Force in India is at present employed as an auxiliary to the army and is controlled by the Commander-in-Chief in India to

¹ The 4th Hazara Pioneers.

whom the Air Officer Commanding in India is responsible. The Air Officer Commanding has a Headquarters staff similar in organisation to that of the Army.

Subordinate to this Headquarters, there are the following :—

- (a) Group Headquarters at Peshawar with two bombing squadrons at Risalpur, two at Kohat and one Army Co-operation Squadron at Peshawar.
- (b) One Wing Headquarters at Quetta with two Army Co-operation Squadrons.
- (c) One Army Co-operative Squadron at Ambala.

The chief workshop and repair depot are situated at Karachi, because, it is stated, its climate permits European artificers to work efficiently most of the year and partly because Karachi is geographically the "flying entrance to India" from the west. An Aircraft Park at Lahore receives stores from the Depot and distributes them to the various squadrons other than Quetta, which is supplied direct from Karachi, and also carries out repairs. In war this Aircraft Park is intended to be mobile.

INDIANISATION OF THE INDIAN ARMY

A striking new departure announced by the Commander-in-Chief in February, 1923, was the decision that eight selected units¹ of the Indian Army should be officered by Indians. This was to be achieved by transferring Indian officers, who have been trained at Sandhurst, gradually to these units, and allowing them by seniority and fitness to rise in course of time to the command of their battalions. The process of Indianisation would therefore be a very gradual one and would normally extend over the period which it takes an officer to rise from the ranks of subaltern to Lieut.-Colonel.

The question was re-opened however in 1926 when a Committee was appointed to consider how the supply of Indian candidates for the King's Commission could be improved in number and quality. This Committee severely criticised the "eight unit scheme" and recommended that Indianisation should be greatly extended. For this purpose they recommend that the number of vacancies for Indians at Sandhurst should be gradually increased until an Indian Sandhurst is established; that Indians should be eligible for King's Commissions in the Artillery, Engineer, Tank, Signal and Air Arms, of the Army in India; that in 1933 an Indian military college with an establishment at the start of 100 cadets should be created; and that the basis of selection for cadetships should be competitive examination open to every class of the community. They further recommended that "in order to secure the maintenance of the Imperial connection in military matters, twenty vacancies should continue to be reserved for Indians at Sandhurst after the opening of the Indian Military College." It was calculated that by this scheme half the total cadre of officers in the Indian Army would be Indians by 1952.

This report was accepted in all respects, except with regard to the abolition of the eight unit scheme and the immediate initiation of an Indian Sandhurst.

In connection with the above the Prince of Wales' Royal Indian Military College at Dehra Dun should be noticed. It is a Government institution for the preliminary education of Indian boys who wish to qualify for a King's commission through the Royal Military College, Sandhurst.

¹ 5 Infantry, 2 Cavalry, 1 Pioneer units.

CHAPTER XVII

IMPERIAL ORGANISATION

VARIETIES OF GOVERNMENT

COVERING one quarter of the land surface and comprising one quarter of the total population of the globe, the British Empire includes almost every variety of climate, race and production. It is not therefore remarkable that its forms of government should be almost as numerous, extending in a complete gamut from the higher forms, the self-governing Dominions which have grown into great nations, dealing on equality with the Mother Country, down the scale to those colonies which possess no representative institutions of their own and whose administration is conducted entirely from Great Britain. So various, indeed, are the forms, and so closely do they merge into one another, that any classification of the governments of the Empire is difficult and likely to be incomplete. Indeed, diversity is the rule, and similarities are the exception. The British Empire has grown up gradually, and the governments of its parts are examples of individual growth varying in detail. No two colonies or dominions are governed exactly alike. Even in the case of possessions comparatively close together such as the British West Indies, which by their proximity to one another are similar in climate, production and race, the utmost diversity of political institutions can be found, ranging from Barbados, Bermuda and the Bahamas which have miniature Parliaments with elected representatives and almost complete powers of self government to Trinidad and St. Lucia which in a great measure are still administered by Downing Street.

If we seek then to classify the various governments of the Empire the only method available, apart from a detailed consideration of each individual unit is to group into classes those portions which are broadly similar, noticing these simi-

larities and leaving the differences for closer study. Adopting this principle we can arrive at the following broad division :—

- (1) Communities which possess complete responsible self-government and are known as Dominions, viz., the Dominion of Canada; the Colony of Newfoundland; the Commonwealth of Australia; the Dominion of New Zealand; the Union of South Africa; the Irish Free State; and communities which possess responsible government, subject to certain reservations, viz.: Southern Rhodesia and Malta.
- (2) Colonies, dependencies, protectorates and mandates not possessing complete responsible government, *i.e.*, in which the ultimate power resides in the Colonial Office.
- (3) The Anglo-Egyptian Sudan whose connection is through the Foreign Office; India whose varieties of local government, whose central government and whose connection with Great Britain differ from those of all the other Dominions and Colonies; and the Channel Islands and the Isle of Man which have self-government under the general supervision of the Home Secretary.

SELF-GOVERNING DOMINIONS

The constitution of each of the self-governing colonies will be given in Appendix II. It is sufficient to point out here that there are three essentials which are common to all :—

(1) The head of the Executive and representative of the Crown, known as the Governor-General—except in Newfoundland where he is styled the Governor—possesses all the prerogatives of the Crown in England pertaining to the executive government, including the prerogative of mercy, but excepting those which are retained by the King Emperor—the right to declare war, issue coinage and to confer honours. Just as the King in Great Britain acts on the advice of his ministers who are responsible to Parliament, so the Governor-General of the Dominion acts on the advice of the ministers of that Dominion. He is appointed by the sovereign on the advice of the Imperial Government, and with the assent of the Dominion government concerned, ordinarily for five or six

years. He is paid, however, not by Great Britain, but by the Dominion. The Governor-General has been able theoretically in the past to exercise a veto on the acts of the Dominion Parliament in one of two ways :—

- (a) He could refuse his assent to a bill presented to him for signature. This right may be regarded as practically obsolete.
- (b) He could reserve the bill for consideration by the British Government, in which case, unless the assent of the Crown was given by Order in Council within two years, the Bill becomes null and void. In the case of certain classes of acts, especially those altering the constitution, this reservation is necessary, and the Governor-General's assent if given would be null. Even if an act, however, has been assented to by the Governor-General it may be disallowed by His Majesty, by Order in Council, within two years.

In actual practice, however, the only circumstances under which a veto might be applied are in connection with legislation to alter the constitution of a Dominion or legislation which might affect the interests of some other part of the Empire.

(2) The second essential common to the self-governing Dominions is a parliamentary system in most respects similar to that of Great Britain. There are two Houses of Parliament, an Upper and Lower House. In Canada the Lower House is styled the House of Commons ; in the Commonwealth and New Zealand it is called the House of Representatives, and in the other Dominions the Legislative Assembly, or House of Assembly. The Upper Chamber bears normally the title of the Senate.

The lower houses are democratic and are elected by ballot. In Australia and New Zealand their duration is for three years ; in Newfoundland for four years, and elsewhere for five years.

The Upper House of Australia is elected ; in New Zealand its members are nominated, though provision has been made for an elected House in the future. In Canada members are

nominated for life by the Governor-General, or in effect by the Government in power in the Dominion. In the Union of South Africa four-fifths of them are elected by the Provincial Councils, and one-fifth nominated in order to secure representation of native interests.

The privileges and customs of the Parliaments of the Dominions are closely modelled on the British Parliament. Money bills must originate in the Lower House, and can be rejected but not altered by the Upper House. All acts passed by the Dominions are worded in the name of the King.

(3) The third essential common to all is the Cabinet system as in Great Britain.

COLONIES NOT POSSESSING COMPLETE SELF-GOVERNMENT

The non-self-governing colonies also have certain political characteristics in common.

(1) The relations of all of them with the British Government, through the Colonial Office, are extremely close. The Governor and all the principal public officers are appointed by the Home Government which also possesses and exercises through the Colonial Office a large measure of control over the legislation and administration of such colonies.

(2) The Governor possesses almost complete executive power in the colony, and his assent is necessary to all legislation which is passed locally. He is bound only by elaborate regulations formulated by the Colonial Office.

(3) The Governor is assisted and advised in each colony by an Executive Council consisting of the chief officers of the local government and, in certain cases, of additional unofficial members nominated by him.

(4) Each colony, with the exception of those whose legislative power is vested completely in the Governor, has a Legislature to initiate laws, which may consist of one chamber, known as the Legislative Council, or of two chambers in the more advanced colonies, a Legislative Council and an Elected Representative Assembly.

Within this general framework we get, however, a great

diversity of constitution in accordance with the amount of local power exercised by each individual colony. Thus :—

A.—At the top of the scale are (1) Southern Rhodesia, which possesses responsible Government subject to certain exceptions, with regard to native administrations, etc., and (2) Malta which has control over its own internal affairs but is subject to the control of the Secretary of State for the Colonies in matters of Imperial concern.

B.—A little lower in the scale are those colonies which possess both a Legislative Council (nominated) and an elected House of Assembly. The representatives of this type in the Empire are Barbados, Bahamas and Bermuda.

C.—Lower still are colonies which possess no elected House of Assembly but have only the Governor, Executive Council and Legislative Council. This is the most common type, and can be subdivided into three classes :—

(a) Those where the Legislative Council is partly elected, and the officials on it are not in the majority, *e.g.*, British Guiana, Cyprus.

(b) Those where the Legislative Council is partly elected, but an official majority is assured, *e.g.*, Jamaica, Kenya, Mauritius.

(c) Those where the Legislative Council is nominated by the Crown, *e.g.*, British Honduras, Gold Coast, Hong-Kong.

D.—Lowest of all are those colonies and protectorates which are governed by the Governor and Executive Council only and in which there is no Legislative Council.

Representatives of this class are Ashanti, Gibraltar, St. Helena, Somaliland, Islands under the Western Pacific High Commissioner.

A term commonly used but for which there is no official sanction must now be defined with reference to the foregoing classification. The term "Crown Colony" is sometimes interpreted to mean widely all those colonies in which the Crown (through the Colonial Office) retains the ultimate power of legislation, *i.e.*, it would include A, B, C and D ; in fact all

*The Term,
Crown
Colony*

colonies except the self-governing Dominions. The more generally adopted meaning of the term is, however, narrower in its application and it usually refers only to those colonies in which there are *no* local representative institutions, but in which the complete powers of government are vested in the Governor and his executive council. Adopting this interpretation the only Crown colonies are those colonies which can be classified under D.

Protectorates The term Protectorate already used also requires explanation. Strictly speaking, at first it indicated control as opposed to ownership, the control being chiefly exercised on the external relationships of the protected country which was thereby secured from interference on the part of any other power, but was ruled by its local potentates under British advice. It generally happened, however, that such control of external affairs led eventually to complete British occupation and administration for the sake of peace and security, so that to-day there are few Protectorates in the Empire outside India, which are very different in constitution from colonies. The residue of power now left in the hands of local kings and chieftains is in many cases extremely small.

The following are illustrations of British Protectorates; Uganda, which is under direct British administration. The principal British representative, who in this case is known as the Governor, makes ordinances for the administration of justice and the raising of revenue, etc., though the native kings and chiefs are encouraged to conduct the government of their own subjects with British advice and supervision. Zanzibar is nominally ruled by its Sultan, but the Government is really administered by a High Commissioner and British Resident. The people of Bechuanaland, Basutoland and Swaziland Protectorates, are ruled by their local chiefs under the supervision and advice of Resident Commissioners who act under the High Commissioner for the South African Protectorates. The Federated Malay States still retain their local sultans, who are advised by British Residents, acting under a British High Commissioner, who is also the Governor of the Straits Settlements. Sarawak is recognised as an independent State under the protection of Great Britain.

It should be noticed that the term High Commissioner is

generally used in connection with Protectorates to correspond to the term Governor of a Colony, and that where a colony borders on a Protectorate it frequently happens that the Governor of the Colony is High Commissioner of the neighbouring Protectorate. Thus the Governor of the Fiji Islands is High Commissioner for the Western Pacific and the Governor of Nigeria is High Commissioner for the Protectorate of Nigeria

The term Mandate was introduced at the Peace Conference *Mandates* in connection with the ceding to the allied and associated Powers of possessions of the German and Turkish Empires. The covenant of the League of Nations states that such territories should be put under the care of "advanced nations who by reason of their resources, their experience, or their geographical position, can best undertake this responsibility." These nations act on behalf of the League, are expected to aim at developing the well-being of the peoples under their care, and render to the Council of the League of Nations an annual report on the territory committed to their charge.

Such mandated territories were divided by the Peace Conference into three classes according to the degree of civilisation of the inhabitants.

Class A is composed of communities detached from the Turkish Empire and declared to have "reached a stage of development where their existence as independent nations can be provisionally recognised, subject to the rendering of administrative advice and assistance by a mandatory until such time as they are able to stand alone." The only examples of this type are: Mesopotamia (Iraq) and Palestine, mandated to Great Britain; Syria including Lebanon, mandated to France.

Class B consists of the former German colonies in Africa and are administered under conditions which guarantee freedom of conscience and religion, subject to the following:—

- (1) The maintenance of public order.
- (2) The prohibition of abuses, such as slave trade and liquor traffic.
- (3) The establishment of no fortifications or military or naval bases.

- (4) No military training of the natives for other than police purposes and the defence of the territory.
- (5) Equal opportunities for trade and commerce of all members of the League.

Togoland and the Cameroons, mainly attributed to France ; the north-western portion of German East Africa (Ruanda and Urundi) attributed to Belgium and the remainder of German East Africa attributed to Great Britain, come under this class.

Class C, consisting of German South West Africa and the Pacific Island possessions, is composed of territories which "can best be administered under the laws of the mandatory as integral portions of its territory, subject to the safeguards above mentioned in the interests of the native population."

This class comprises the former German South Pacific possessions (except Nauru and Samoa) attributed to Australia ; Samoa attributed to New Zealand ; Nauru attributed to the British Empire, and administered by Australia, New Zealand and Great Britain ; former German North Pacific possessions attributed to Japan ; former German South West Africa attributed to the Union of South Africa.

POSSESSIONS WHICH ARE NOT COLONIES

There are two of these—the Channel Islands and the Isle of Man.

The Channel Islands fall into two groups for administration. The first consists of Guernsey, Sark and Alderney, and the second of the island of Jersey. Governors for each of these groups are appointed by the Crown on the advice of the Home Secretary, who is also responsible for the Government of the islands. Each of the groups has its own Legislature and its own Executive. The Legislature is called the States, and is partly elected, and partly nominated by the Crown. The States of Guernsey can legislate for Alderney, though the latter has States of its own.

The Isle of Man has almost complete home rule. The Legislature consist of an elected Lower House (the House of Keys) and a Council whose members, with the exception of

the Vicar-General, are nominated by the Crown. The Governor, who is appointed by the Crown, on the advice of the Home Secretary, constitutes the sole executive without any ministers, but his administration is controlled by the Home Secretary, and the Treasury possesses a power of supervision in financial matters.

Other British possessions which do not come under any of the foregoing heads and which will be referred to in the appendix, are India, which is attaining to, but has not yet reached, Dominion status, and the Anglo-Egyptian Sudan, still nominally governed jointly by Great Britain and Egypt, and administered under the Foreign Office. The joint British and French Government of the New Hebrides (the condominium) should also be noticed.

Instead of the Imperial Government carrying out the initial development and administration of a country, this was sometimes left to a Chartered Company. The British Borneo Company which administers the territory of British North Borneo under the supervision of the Secretary of State for the Colonies, is the only remaining illustration of this type of government.

Spheres of influence are regions which are not necessarily controlled at all, but in which Great Britain reserves the exclusive right of intervention as against any other power. Arabia, the Persian Gulf and the isthmus connecting the Malay Peninsula with Siam are illustrations. The unspecified reserved areas mentioned in the negotiations preliminary to the signing of the Kellogg Pact, to which reference is made in the following chapter, are also a species of sphere of influence.

THE IMPERIAL BONDS OF UNION

The links which hold together the strange collection of governments already described may be classified as follows :—

(i) Political or constitutional ;

e.g. (a) The Crown ;

(b) Final Court of Appeal in law cases.

(c) Imperial Conferences.

- (d) Imperial General Staff.
- (e) Representation in Great Britain of Dominions and Colonies.

(ii) Economic :

e.g. Imperial postage, subsidy to mail steamers on Imperial routes, subsidy to cable companies, colonial loans, emigration, preference, consular service, Imperial exhibitions.

(iii) Sentimental. Bonds of race, language and religion.

Bonds of Union
(i) *Political or Constitutional*
(a) *The Crown*

The chief bond of union in the Empire is the Crown. Apart from the personal loyalty to the throne and the sovereign as the symbol of the union of nations in the British Commonwealth, the King is the head of the Executive, and appoints all Governors of Colonies and Governors-General of self-governing communities, to be his representatives. All coins in the Empire bear his effigy.

(b) *The Supreme Court of Appeal in Law cases*

The Imperial Act of 1844 gave to the Judicial Committee of the Privy Council, which consists of the Lord Chancellor and a number of Law Lords who are members of the Privy Council, the right of determining appeals from any Courts in British Possessions, except where subsequent Imperial legislation has taken away the privilege.

The objections to the system are obvious. Only wealthy corporations can afford to bring their cases to England for trial, so that the individual is liable to suffer in any action against the moneyed corporation. Also it is argued that the Judicial Committee cannot have the local knowledge necessary to arrive at decisions in many cases.

To avoid this difficulty various attempts have been made to strengthen the Judicial Committee by the addition of Dominion Judges, but so far these efforts have failed, as no provision is made for the payment of the judges, who could therefore only sit when they happen to be present in England.

The jurisdiction of the Judicial Committee in relation to appeals from the Dominions has been gradually whittled down, and tends to diminish further, but the committee is still an important link with the non-self governing colonies and India. It can also be utilised as a court for the solution of differences.

between the Dominions, which are capable of legal settlement. Thus, the long outstanding question of the boundary between Canada and Newfoundland in Labrador was submitted to it and a settlement thereby was reached.

In the years 1887, 1894 and 1902 conferences of the Colonial ^{(c) Imperial} ~~Conferences.~~ Premiers were held in London for the purpose of informal consultation on Imperial affairs. The last of these Colonial Conferences was held in the year 1907, and was the beginning of a new type of conference known as the Imperial Conference. At it were present ministers representing the various Dominions and Great Britain, and the following important decisions were made :—

(a) That an Imperial Conference should meet every four years.

(b) That the term Dominion should be used instead of Self-Governing Colony. This was an old term which had been used with reference to colonies in the eighteenth century, as in the case of Virginia, which was then known as the Old Dominion.

(c) That a permanent secretarial staff should be formed at the Colonial Office, to keep in touch with the Dominions and to give continuity between the various meetings of the Conference. This secretariat was to be known as the Dominions Department of the Colonial Office.

(d) It was decided that the President or Chairman of the Imperial Conference should be the Prime Minister of Great Britain. The Secretary of State for the Colonies should be Vice-Chairman, and take the chair in the absence of the Prime Minister. The various Dominions should be represented, if possible, by their Premiers, though other ministers of the Dominions might be present, but in no case should Great Britain or any Dominion have more than one vote on any matter which might be raised. It was also agreed that the Imperial Conferences should not possess legislative powers. Suggestions or recommendations could be made and might then be embodied in Bills for presentation to the Parliaments of Great Britain and of the Dominions. The Imperial Conference of 1907 also affirmed the need of developing a General Staff selected from the forces of the Empire as a whole.

In accordance with the resolution of 1907, a second con-

ference was held in 1911, at which one important decision arrived at was that residence in Great Britain or a Dominion for five years or more is sufficient to enable any person to take out naturalisation papers, and become a citizen, and that naturalisation in one of the Dominions should be recognised in other parts of the Empire.

Owing to the war, no conference was held in the year 1915, but in 1917 the Imperial War Conference met, to which were invited not merely the representatives of the Dominions, but also representatives of India. The members of the conference present were temporarily made members of the British War Cabinet on terms of absolute equality, and the Cabinet thus increased was known as the Imperial War Cabinet. The chief decisions arrived at in 1917 were :—

(a) That each part of the Empire should give specially favourable terms and facilities to the produce and manufactures of other parts of the Empire.

(b) That it should be fully recognised that the Dominions were "autonomous nations of an Imperial Commonwealth," and that India was an important portion of the same. The rights of the Dominions and India to an adequate voice in foreign policy were affirmed, and it was recommended that an effective arrangement for continuous consultation and concerted action should be made as soon after hostilities as possible.

Further conferences were held in 1918 and 1921, when the principle adopted by the 1917 conference, with regard to the right of the various Dominions to be considered equal members of a commonwealth of nations, having equal powers and opportunities, was more fully expressed.

The 1921 conference also dealt with the "speeding up" of Imperial Communications as one of the most vital necessities of the Empire, without which frequent consultation on questions of Foreign Policy would be impossible.

In October and November, 1923, an Imperial Conference was held at which the chief subjects under discussion were Foreign Policy and Imperial Defence. At the same time, an Imperial Economic Conference sat, which reaffirmed the resolution of the 1917 conference in favour of tariff preference within the Empire. At this conference the British Govern-

ment agreed to ask Parliament for its assent to the imposition of a duty on certain dried and preserved fruits, when they come from foreign countries, and the increase of a similar preference already given to the Dominions on dried figs, raisins, plums, currants, wines and tobacco. A Labour Parliament, however, subsequently refused its assent to these measures.

The Imperial Conference of 1926, which co-ordinated and clarified the work of many of its predecessors and which aimed at defining the present constitutional position of the Dominions will be dealt with in a later section.

Though it will be observed that Imperial Conferences have no legislative or executive powers, and that no resolution passed by them has any binding force except when agreed to by the Parliaments of the countries concerned, yet the value of such conferences has been very marked, and in some directions they have helped greatly to co-ordinate the economic activities of the Empire.

They have assisted in obtaining uniformity of shipping legislation and of naturalisation laws, in removing the burden of double income tax and in increasing inter-Imperial trade. They have been the prime movers in urging on the development of more rapid means of communication such as wireless and air routes; and on the political side, though they are infrequent and perhaps too hurried when they meet, they have given the opportunity for each Dominion to hear the voice of the other Dominions and the Mother Country and for old difficulties and misunderstandings to be explained and new ones avoided.

In 1903, following the South African war, a committee was formed under the presidency of Lord Esher to consider the reconstruction of the War Office. This committee recommended the abolition of the office of Commander-in-Chief and the formation of an Army Council. The first military member of the Army Council became the Chief of the General Staff, and was made responsible through three directorates at the War Office for operations, staff duties and training. In 1907 at the Imperial Conference the need for a General Staff from the forces of the Empire as a whole was affirmed, and the Chief of the General Staff in Great Britain was asked to put

(d) *Imperial
General Staff*

forward definite proposals to this effect. These proposals were forwarded to the Governments of the Dominions in 1908, and being accepted, the formation of an Imperial General Staff was commenced. The Chief of the General Staff became the Chief of the Imperial General Staff.

Similarity of training has been one of the results aimed at. Thus the training of gentlemen cadets for the armies and navies of the Dominions is now the same in general. Promotion examinations are on the same lines, and selected officers of Dominion armies and navies are admitted to British units and also, when they qualify, to the Staff Colleges at Camberley and Quetta.

(e) *Representation in Great Britain of non-self-governing Colonies*

During the latter part of the eighteenth century and the earlier years of the nineteenth, the various colonies had agents in London to air their grievances and look after their interests. These agents were frequently members of the British House of Commons, who received a small annual sum in recompense for the performance of their duties. Later these officials were selected as a rule from the personnel of a Government Department at home, and eventually, instead of each colony having its own agent, two agents were appointed for all, known as the Crown Agents for the Colonies, who apportioned all the business between them, as in a business firm, one of them being recognised as the senior partner. "They form part of the general machinery of Crown Colony Government, and are necessarily subject to the instructions of the Secretary of State by whom they are appointed. They are entirely and exclusively business agents, but at the same time in as much as they act for all the Crown Colonies, raise their loans, procure and ship their stores, provide passages for their officers, pay their salaries and their pensions, find consulting engineers for railways and public works, and in a word transact the business of one and all on a more or less uniform system, they are, like the Colonial Office itself, a very valuable link between the widely scattered dependencies which have not self-governing institutions."¹

For Self-governing Colonies

The development of the Crown Agents for self-governing colonies followed a different line. Each of the Provinces of Canada and the States of the Commonwealth, for instance,

¹ *Oxford Survey of B.E.*, vol. I, chap. i.

have Agents General in London, who are the business links dealing with publicity, emigration, etc., for their own particular Provinces or States. When the Provinces or States were amalgamated into Dominions (Canada, 1867; Australia, 1901; South Africa, 1909), one representative in addition was appointed for each Dominion under the title of High Commissioner. A High Commissioner represents each Dominion in London. His duties are difficult to define, but he now almost possesses the status of an Ambassador from the Dominion to the Home Government.

The chief economic bonds of union between the various Dominions and the mother country are as follows :—

Bonds of Union
(ii) *Economic*

(1) Imperial postage.—Rates of postage are cheaper within the Empire than to foreign countries, with the exception of the United States which is treated on equally favourable terms.

(2) Subsidy to mail steamers.—The subsidies from the Government to steamers conveying mails to the Dominions are greater than those paid to steamers conveying mails to foreign countries.

(3) Imperial cable and wireless communications, which are now combined in the Imperial and International Communications Company, which has an advisory board representative of the various self-governing countries of the Empire.

(4) Nearly all Dominion and all Colonial loans are floated in London, as the money market of the Empire.

(5) Emigration.—The majority of emigrants to the Dominions come from Great Britain. This is only true, however, over a number of years. For instance, during the war, owing to abnormal circumstances, the emigration into Canada was chiefly from the United States. An endeavour is being made to strengthen this bond by increasing emigration within the Empire under the Empire Settlement Act of 1922.

(6) Preference.—Preferential taxation exists in all the Dominions, by which goods from Great Britain are received on more favourable terms than goods from foreign countries.

(7) A British Consular Service looks after the interests of citizens of any portion of the British Empire in a foreign country.

(8) Exhibitions such as the Imperial Exhibition at Wembley exercise a binding influence and tend to develop inter-Imperial trade.

*Bonds of
Union
(iii) Senti-
mental*

Perhaps the most binding of all links between the Dominions and the mother country are not the material links given above, but the bonds of common race, common language, common religion and common sports, which unite all the white people of the Empire into a comparatively homogeneous body. Political bonds have a tendency to become gradually irksome unless they are lightened, in the case of rapidly developing new countries. Economic bonds are those which are made from time to time to suit the needs of the moment, but the bonds of community of race, community of religion, and community of language are less likely to be broken by the passage of time. In this connection it may be pointed out that distance is one of the great difficulties which must be overcome. As new means of transport are invented, the mile shrinks in extent, and community of interest, and constant intercourse, make it easier to reconcile the self-governing status of the Dominions with the unity of the Empire.

THE IMPERIAL CONFERENCE OF 1926

After the War it became increasingly evident that the actual practice with regard to the relationship between the Dominions and Great Britain had outgrown and was at variance with constitutional theory. Theoretically, in certain respects, the Dominions were subordinate to the British Government. The legislation of a Dominion Government in theory could be vetoed or disallowed by the Imperial Government. In practice, however, such action would never be contemplated and the Dominions were, in actual fact, completely self-governing communities, equal in status to Great Britain as members of the British Commonwealth of Nations. Even the bonds of union mentioned, with the exception of the Crown, were bonds, the strength and value of which each Dominion might to a great extent fashion for itself. There was a fear, however, expressed openly at times in the Dominions and Great Britain, that the situation was too hazy and undefined, and that unless the British countries were

careful there would rapidly come a time when bonds had ceased to exist entirely, and the British Commonwealth of Nations would be split up into completely separate units.

The first and most imperative duty of the Imperial Conference which met in 1926 was, therefore, to examine and define the relations between the Dominions and Great Britain. This duty was performed by the "Inter-Imperial Relations Committee" under the chairmanship of Lord Balfour, and the report of that Committee was subsequently accepted by the Conference. It defined the status of self-governing parts of the Empire in the following sentence:—

"Great Britain and the Dominions are autonomous communities within the British Empire, equal in status, in no way subordinate to one another in any aspect of their domestic or external affairs, though united by a common allegiance to the Crown, and freely associated as members of the British Commonwealth of Nations."

In this definition of status two principles were obviously affirmed:—

- (a) The absolute equality of the various self-governing nations of the Empire.
- (b) Their unity under the Crown.

These principles were not new. They have been accepted for several years, but their definition in clear language opened the ground for the consideration of constitutional anachronisms, such as the position of the Governors-General in relation to the British Government, the powers of veto or disallowance of Dominion legislation, the responsibility for foreign relations and the methods of co-operation between the self-governing units of the Empire.

A modification in the King's title was obviously necessary. (1) *The King's title*
The existing title "George V, by the Grace of God, of the United Kingdom of Great Britain and Ireland and of the British Dominions beyond the seas, King, Defender of the Faith, Emperor of India" was no longer accurate as the United Kingdom had ceased to exist. The following modification was therefore recommended:—"of Great Britain, Ireland and the Dominions beyond the Seas, King, etc.,"

and the necessary change was made later by Act of Parliament in 1927.

(2) *The
Position of
the Governor-
General*

The position of the Governor-General as the representative of the Crown in a Dominion was reaffirmed. In view of the absolute equality of the Dominions and Great Britain, it was recommended that his function as a representative and intermediary of the British Government should completely disappear, and that the Governments of Dominions and Great Britain should communicate with one another direct. The Governor-General of a Dominion therefore, when he discusses affairs with his ministers, would be in precisely the same position as the King, able to give the unbiassed opinion which is the result of his wide experience of affairs, and would be in no sense the mouthpiece of the British Government. Communications between the British Government and the Government of his Dominion should be direct between ministers of the two governments and a copy should be sent to the Governor-General. This procedure is now carried out between Great Britain and the governments of Canada, Australia, the Union of South Africa and the Irish Free State.

(3) *Powers
of disallow-
ance and
reservation*

The powers of veto, disallowance and reservation with regard to Dominion legislation, which in practice have fallen into disuse, were also traversed. It was recommended that on matters of ordinary legislation the power of the British Government to disallow any legislation of a Dominion should no longer be considered to exist; but it was felt that with regard to matters dealing with alteration in the constitutions of Dominions, or reservations embodied in Acts to safeguard interests common to the whole British Commonwealth, it would be dangerous to move hastily. The Conference therefore agreed that these questions should be more fully considered by a Committee of Experts, whose report is still being considered at present by the various governments of the Empire.

IMPERIAL CO-OPERATION IN FOREIGN POLICY

Though the bonds of union which have been enumerated are many and tenacious, a disturbing feature, unfortunately, is the lack of any very definite means of arriving at a common Foreign Policy for the whole Empire. This difficulty never

arose prior to the beginning of the twentieth century. Until then, the various Colonies and Dominions were fully occupied with the development of their own vast territories, and had neither the time nor inclination for the wider affairs of the world around them. They were content, therefore, to leave the control of Imperial Foreign Policy completely in the hands of Great Britain, and subscribe to anything which the British Government should propose.

In the years immediately before the war, however, a new precedent was established. The Premiers who were present at the Imperial Conference in 1911 attended meetings of the Committee of Imperial Defence, at which the principles of British Foreign Policy were explained. The German menace was discussed, and the approval of the Dominions sought and given to the renewal of the Anglo-Japanese Alliance. The Imperial Government thus initiated a new principle of consultation with the Dominions on questions of general foreign policy. Despite this precedent, however, the declaration of war in 1914 was made on the responsibility of the Imperial Government alone, though it was approved of afterwards by the various Dominions.

Before the negotiations for peace, a tendency towards fuller Dominion representation in general foreign policy was noticeable. They naturally desired some voice at the Peace Conference commensurate with their war services, and a compromise was arrived at by which they were accorded the right of separate representation so that they could present their views, though in any case of voting only one British vote might be given.

This tendency was further confirmed by the Covenant of the League of Nations, of which the Dominions and India together with the British Empire are members, and mandates for the German territories in South West Africa, New Guinea and Samoa were given to the Union of South Africa, the Commonwealth of Australia, and New Zealand respectively. These Dominions, therefore, obtained the right to communicate direct, and not through the Imperial Government, with the League of Nations, to whom they are subject in carrying out their mandates, and to whom they must render annual reports.

As a natural corollary to this, almost all the treaties concluded since 1918, by the Imperial Government, have been signed not merely for Great Britain, but also for the Dominions by separate plenipotentiaries. A notable exception to this, of considerable importance, was the Aerial Navigation Convention of 1919, which treats the Empire as a single unit for the purpose of assigning votes.

More recently still a development arose in the desire of Canada to have her own diplomatic representative at Washington. The solution finally arrived at was the appointment by His Majesty of a Canadian Minister Plenipotentiary, subordinate in status to the British Ambassador. In all matters concerning Canada alone, he communicates direct with the Dominion Government, and acts under its instructions; where Imperial and Dominion affairs are both involved, he co-operates with the British Ambassador. It should be noted, moreover, that the appointment is made by the authority of the Imperial Government, and the powers granted to the minister are issued on the responsibility of the Secretary of State for Foreign Affairs. The Irish Free State also has representatives at Washington, and Paris, and there are Canadian Ministers at Paris and Tokio also.

Thus the tendency in the years since the war has been to give the Dominions a greater and ever increasing say in questions of Foreign Policy, and to recognise that they are in no sense bound by decisions arrived at by the British Government to which they have not actually given their consent. This stage in our Imperial organisation is clearly and definitely stated in the following resolution of the Imperial Conference of 1923 :—

*Imperial
Conference
1923*

“ Foreign Relations.—The Conference agreed that it is desirable that no treaty should be negotiated by any of the Governments of the Empire without due consideration of its possible effect on other parts of the Empire, or on the Empire as a whole. Steps should be taken therefore to ensure that all the Governments of the Empire likely to be interested should be kept informed and should have an opportunity of expressing their views and participating in the negotiations.

“ A treaty imposing obligations on one part of the Empire only should be signed by a representative of the Government

of that part, and should clearly indicate the part of the Empire in respect of which the obligations are to be undertaken. Where a treaty imposes obligations on more than one part of the Empire, the treaty should be signed by one or more plenipotentiaries on behalf of all the Governments concerned. As regards treaties negotiated at International Conferences, the existing practice of signature by plenipotentiaries on behalf of all the Governments of the Empire represented at the Conference should be continued."

Though this refers in particular to powers of treaty making, it appears to suggest also that no Dominion can be bound by any act of the Imperial Government on which it has not been consulted.

These general rules of procedure were reaffirmed at the Imperial Conference in 1926, and it was agreed that in future, when a treaty affected more than one part of the Empire, it should be made in the name of the King as Sovereign of the whole Empire, and signed on behalf of the different Governments of the Empire represented or adhering to the treaty.

Foreign Policy is, however, a branch of the activities of government which has a habit of suddenly taking strange and ominous turnings. An Imperial Conference might arrive at decisions which would be valueless in a sudden crisis a few years later. The crux of the whole matter therefore lies in the italicised lines of the resolution quoted above. Continuous and not occasional consultation between the Governments of the Empire is essential if the Empire is to speak with one voice: if it speaks with many and contradictory voices on questions of Foreign Policy and eventually of war, its security is seriously impaired.

Unfortunately, the difficulties in the way of continuous consultation between the Governments of the Empire are great and obvious. Distance is the greatest. Imperial conferences cannot be held frequently, because the Prime Ministers of the various Dominions cannot spare the time to come to this country. Communication by letter or cable is less satisfactory than an opportunity to talk matters over and smooth out difficulties in conversation. Here, it is true, the development of wireless and of air routes will help, in that they will enable the Premiers of the various parts of the Empire

to talk across the intervening distance, or to visit one another in a quarter of the time now necessary. But even these are only palliatives and not a cure, and various efforts have been made during the last few years to extend the means by which the Dominions can be kept continuously informed of the progress of Foreign Policy.

*New Means
of co-ordina-
tion*

Thus the formation in 1925 of a Secretariat for the Dominions was partly dictated by the necessity for closer touch between the various self-governing units of the Empire¹. Australia had, in 1924, appointed a Liaison Officer in London to study the foreign situation and supply the Prime Minister of the Commonwealth with any necessary information to supplement that received through existing channels. After the Imperial Conference of 1926 this method was extended. The British Government appointed a High Commissioner in Canada to perform the function of an additional channel of information. At the request of New Zealand, an officer of the Foreign Office was seconded for attachment to the Department of the Prime Minister of New Zealand in an informative and consultative character, particularly in relation to Foreign Affairs. Arrangements were initiated also, whereby the Imperial Secretary in South Africa would act as a supplementary channel of communication between His Majesty's Government in the United Kingdom and in the Union of South Africa.

IMPERIAL CO-OPERATION IN TRADE

*Foreign
trade since
the war*

The welfare of the industrial population of Great Britain depends on markets for the manufactures produced in its factories. Without these markets unemployment and unrest arise; the manufacturing power of Great Britain diminishes; the balance of exports over imports (including invisible exports, such as the value of our carrying trade) is lessened, and our capacity as a technical base in war is also impaired.

In the period since the war our overseas trade has not

¹ In 1925 a Secretariat for Dominion Affairs was created to take over from the Colonial Office the affairs of the Self Governing Dominions, Southern Rhodesia and the South African Territories (Basutoland, Bechuanaland, and Swaziland) and all business relating to Imperial Conferences.

recovered *pari passu* with that of other countries owing to various factors :

- (1) The chief factor is the development of the commercial power of the United States, which during and since the war has enormously increased the value of its manufactured exports.
- (2) European countries are also building up industrial concerns and increasing their exports of manufactured goods.
- (3) Foreign countries who were heavily hit by the war are trying to produce their own necessities in order to avoid increasing an adverse trade balance and thereby producing a fall in their rate of exchange.

Even the trade of Great Britain with the Empire does not appear to have increased as rapidly as the trade of the United States with our Dominions and Colonies, during the same period, despite the fact that the Dominions give preferential treatment to British manufactured goods. *Trade with the Empire*

Joint action within the Empire is obviously necessary and would be to the benefit of all. Co-operation, by which the agricultural and other products of the Dominions and Colonies could come more cheaply than foreign produce into Great Britain, and by which the manufactures of Great Britain could be marketed at a lower price than foreign goods in other parts of the Empire, would stimulate trade all round, lessen unemployment in Great Britain, hasten the development of the Empire as a whole, make us more independent of foreign countries, and would probably aid in that better distribution of the white population which is essential to prosperity in peace and security in war. *Need for joint action*

Some of the methods of joint action which are being pursued are :— *Methods of joint action*

- (1) Imperial Preference. The Dominions give preferences to British manufactures amounting in some cases to as much as 20 per cent. Great Britain in return has since July, 1925, given preferences on a number of Dominion and Colonial products such as dried fruits, sugar, etc.
- (2) Research into and development of tropical resources. Various agencies, such as the Imperial College of Tropical

Agriculture in Trinidad, the Imperial Bureau of Entomology, the Cotton Growing Association, are engaged on researches aiming particularly at the development of the tropical parts of the Empire.

- (3) The Imperial Economic Committee, formed on the recommendation of the Imperial Conference of 1923, surveys all questions relating to the products of the Empire and reports to successive Imperial Conferences.
- (4) The Empire Marketing Board aims at the stimulation of trade within the Empire and administers an annual grant of £1,000,000 given by the British Government for this purpose. Portion of this grant is used for research and a large sum is devoted to publicity.
- (5) The Imperial Shipping Committee deals with the carrying trade of the Empire, reductions of costs, harbour accommodation, maritime insurance rates, etc.
- (6) Periodic surveys at Imperial Conferences of the trade situation of Great Britain and the Dominions, at which are reviewed questions such as the necessity for the speeding up and reduction in cost of lines of communication within the Empire, measures for industrial standardisation of machinery, etc., and reciprocal trade agreements between various Dominions and Colonies.
- (7) Conferences between the British Government and the Governors or other representatives of the various Colonies. The first of such conferences was held in London in 1927 and was known as "the Colonial Office Conference," and dealt with the development of trade, methods of research, communications, etc. It is intended that these conferences should be held triennially in future.
- (8) The Colonial Development Fund. The Colonial Development Act of 1929 authorised the advancing of large loans to Colonies for the purpose of various development works. Already assistance has been approved in respect of works in Tanganyika Territory, Northern Rhodesia, Sierra Leone, Swaziland, Cyprus, Seychelles, Jamaica, and the Leeward and Windward Islands. A loan has also been authorised to assist in carrying out the Zambezi bridge project.

IMPERIAL CO-OPERATION IN DEFENCE

Prior to the year 1909 only one navy existed in the British Empire, and money contributions were made towards its upkeep by the various self-governing Dominions. This principle, however, of an Imperial Navy under the centralised control of the British Admiralty incurred a growing disapproval, particularly in Canada and Australia where it was felt that Dominions should bear some share of the burden of their own naval defence, not by money payments the use of which they could not control, but by the establishment of local Navies administered solely by the Dominions concerned. The British Admiralty on the other hand held the view that one Imperial Navy was better than a number of smaller ones, because it ensured uniformity of training, economy of administration and greater security from attack and defeat in detail. The controversy between the adherents of the "local navy" and the "Imperial Navy" came to an end at the Subsidiary Imperial Conference of 1909 when the British Admiralty accepted the principle of "local" or Dominion Navies. The position was more clearly defined two years later in a Naval Agreement between Canada, Australia and the United Kingdom by which it was agreed that "the naval forces of the Dominions of Canada and Australia will be exclusively under the control of their respective governments," provided they remained within the areas fixed for each of the two Dominions. It was further agreed that, in time of war, "When the naval service of one of these Dominions is put at the disposal of the Imperial Government by the Dominion Authorities, the ships will form an integral part of the British Fleet and remain under the control of the British Admiralty during the continuance of the war."

New Zealand for a time continued to contribute money and ships to the British Navy but eventually, after the war, fell in line with Canada and Australia, and is now engaged in forming a local Navy of her own. Later still, the Union of South Africa (1921) took over control of the Royal Naval Dockyard and Naval Base of Simon's Town together with all coastal defences, and passed legislation allowing for the formation of a nucleus of a small naval service. India, which until 1926 had contributed about £100,000 a year to the Royal

*The forces
of the
Dominions
(1) Navies*

Navy and also maintained the Royal Indian Marine, in that year contemplated the formation of a Royal Indian Navy, which should be responsible for the defence of Indian ports, should help in the defence of trade in the Persian Gulf, and in time of war should come automatically under the control of the Naval Commander-in-Chief, East Indies. A bill for the embodiment of this force was, however, thrown out by the Indian Legislative Assembly, and the Royal Indian Marine therefore continues to exist.

(2) *Armies &
Air Forces*

For many years it has been regarded as an axiom that the onus of local defence rests on the various Dominions themselves. Small permanent land forces are therefore maintained, supplemented in the cases of New Zealand and the Union of South Africa by systems of compulsory training and in Canada and Australia by militia systems. All Imperial troops were consequently withdrawn from the Dominions, and even important naval dockyards such as Halifax and Simon's Town are now garrisoned entirely by local forces.

It should be definitely understood that the land and air forces of a Dominion are completely under the control of their own Government. They are purely for local defence, and without the passage of special legislation, cannot be compelled to serve out of their own country. No attempt is made by the Dominions to maintain troops who would be available for overseas expeditions.¹

*Agencies for
uniformity of
organisation*

The Land, Sea and Air Forces of the Dominions are thus independent forces formed by and completely under the control of the Dominions themselves. They are in no sense under the supervision of the Imperial Government, and can only come under its control in time of war by voluntary offers from the Dominions. Though, in consequence of this status of the Dominion forces, there cannot be any real unity of control in time of peace, much has been done to ensure uniformity of armament, equipment, training and defence policy throughout the Empire.

The chief agencies are as follows :—

- (1) The Imperial General Staff which works in close touch with the General Staffs in the Dominions.

¹ Of the Colonies, Gibraltar, Malta, Cyprus, Mauritius, Sierra Leone, Ceylon, Straits Settlements, Hong-Kong, Jamaica and Bermuda possess British garrisons.

- (2) The visits of distinguished soldiers and sailors to the Dominions.
- (3) The reciprocal attachment of naval, military and air officers to the staff colleges and other technical establishments maintained in various parts of the Empire, and the appointment of liaison officers between Dominion and British staffs.
- (4) The attachment of Dominion officers to British units.
- (5) The Imperial Defence College formed recently for the training of a body of officers and civilian officials in the broadest aspects of Imperial strategy, and for the occasional examination of current problems of Imperial defence referred to it by the Chiefs of Staff Committee.
- (6) The Committee of Imperial Defence.

The Committee of Imperial Defence, is probably the most important agency for the co-ordination of Imperial military, naval and air policies. It consists of the Prime Minister of Great Britain and any person whom he chooses to invite to attend. Ordinarily the following Ministers and officials attend the meetings :—

The Lord President of the Council, the Lord Privy Seal, the Secretaries of State for Foreign Affairs, for Dominion Affairs, for the Colonies, for War, for India, for Air, the Chancellor of the Exchequer, the First Lord of the Admiralty, the Chiefs of Staffs of the three fighting services, the Permanent Secretary to the Treasury.

But other Ministers, officers or experts of the Home Government, the Dominions and India are invited to attend from time to time when questions are under discussion which require their advice.

Much of the detailed work of the Committee of Imperial Defence is carried out by Committees of which the following are particularly important.

- (1) The Committee of Chiefs of Staff which advises on Defence Policy as a whole—the three constituting as it “were a Super Chief of a War Staff in commission.” On strategic problems the Committee of Imperial Defence receives

from this Committee collective advice instead of separate and perhaps conflicting advice from the points of view of sea, land and air warfare.

- (2) The man power committee deals with the organisation of our man power in time of war.
- (3) The principal Supply Officers' Committee co-ordinates supply policy in the same way as the Chief of Staff Committee co-ordinates questions of General Staff policy.

By these various agencies similarity in arms, equipment and training within the Empire is being steadily attained. In general the forces of the Dominions and Great Britain are organised on similar formations : similar patterns of weapons are employed ; the same manuals of training are in use.

The Imperial Conference of 1926 was however impressed with the necessity for further co-operation and further consultation between the General Staffs of the Empire. The attention of Dominion Governments was therefore drawn to a resolution of the Imperial Conference of 1911 which recommended that :—

- (1) One or more representatives appointed by the respective Governments of the Dominions should be invited to attend meetings of the Committee of Imperial Defence when questions of naval, military and air defence affecting the Dominions are under consideration.
- (2) A Defence Committee should be established in each Dominion.

It also recommended to the various Governments of the Empire the construction and maintenance by the various countries concerned of an adequate chain of air bases, mooring masts and refuelling stations, and co-operation in meteorological research as a basis for air communication, the interchange of individual officers for liaison or even of air units, in order to disseminate more widely the experience which is being acquired under very varying conditions. These recommendations have all been accepted by the various governments concerned.

Unity of control of all the forces of the Empire is impossible in time of peace. Any attempt to attain it would necessarily

be regarded as an infringement of the powers of the various self-governing Dominions. All that can be hoped for and attempted therefore is to have such a degree of uniformity of organisation that in time of war the process of change to the necessary unity of control will be an easy one. Even during the Great War, when measures for uniformity of organisation had not reached so high a pitch of effectiveness, unity of control was carried out satisfactorily.

CHAPTER XVIII

INTERNATIONAL OBLIGATIONS AND RESPONSIBILITIES

REFERENCE has been made throughout these pages to a number of changes which are taking place within the Empire, all of which have an intimate bearing on Imperial Defence. There are, for instance, processes at work among the white population such as its increasing dispersion by settlement in the Dominions and Colonies, and an inevitable loss of homogeneity in outlook if not in race and language. There is the gradual movement upwards in the scale of government from Protectorates to Colonies and Colonies to semi-Dominions, or Dominions which has recently been illustrated in a number of cases. There is also a great variety of growing and complex problems associated with the steady progress of the coloured races of the Empire towards the educational standards of the white man. There are the projects for the confederations of colonies, now separate, into groups such as the Kenya-Uganda-Tanganyika Group, the two Rhodesias, the British West Indies; and there is, lastly, the question of self government for India which, in the immediate future, perhaps overshadows all the rest.

But in addition to these changed and constantly changing conditions in our internal economy, important post-war alterations have taken place in regard to our international relationships and obligations. The old time system of alliances, by which states ranged themselves on sides, like teams ready for the whistle to blow, has been replaced by general treaties aimed at the prevention of war, by measures of disarmament to promote a feeling of security, and by agreements with regard to a limitation of the use of new weapons.

TREATIES AIMED AT THE PREVENTION OF WAR

The first and perhaps the most comprehensive attempt since 1918 at preventing the possibility of war, was the Covenant of the League of Nations which formed Part I of the Treaties of Peace presented to Germany and Austria for their signature in 1919. This Covenant is the fundamental document of the League of Nations of which all the important countries of the world are members, except the United States, Russia (the U.S.S.R.), Afghanistan, the Arab States, Turkey, Egypt, Mexico, Brazil, Ecuador and Costa Rica.

By this Covenant, the bodies through which the League of Nations works are :—

- (a) The Assembly of the League to which all nations who are members can send representatives. *The Chief Bodies of the League*
- (b) The Council of the League, which consists of five permanent members representing the British Empire, France, Germany, Italy and Japan and nine non-permanent members who are elected, by the Assembly, from among the other nations.
- (c) A permanent Secretariat.
- (d) A world court of International Justice at the Hague whose function is to hear and determine any dispute of an international character which may be submitted to it by the parties concerned, or to give an advisory opinion upon any dispute or question referred to it by the Council of the League of Nations.

The Covenant of the League binds all the members to respect the territory and independence of all other members. Every war or threat of war in the world is declared to be a matter of concern to the whole League. Its members agree that all disputes between them likely to lead to a rupture will be submitted to arbitration, or to enquiry by the Council of the League, or shall be submitted to the Court of International Justice for adjudication, and in no case will they resort to war until at least three months have elapsed after the award by the arbitrators or the report of the Council.

Certain penalties are provided in the case of the breaking of this Covenant by any Power. Article XVI, which contains these penalties, reads as follows :—

"Should any member of the League resort to war in disregard of its covenants under Articles XII, XIII or XV, it shall *ipso facto* be deemed to have committed an act of war against all other members of the League, which hereby undertake immediately to subject it to the severance of all trade or financial relations, the prohibition of all intercourse between their nationals and the nationals of the covenant-breaking state, and the prevention of all financial, commercial or personal intercourse between the nationals of the covenant-breaking state and the nationals of any other state, whether a member of the League or not.

"It shall be the duty of the Council in such case to *recommend* to the several Governments concerned what effective military, naval or air force the members of the League shall severally contribute to the armed forces to be used to protect the covenants of the League.

"The members of the League agree, further, that they will mutually support one another in the financial and economic measures which are taken under this article, in order to minimise the loss and inconvenience resulting from the above measures, and that they will mutually support one another in resisting any special measures aimed at one of their number by the covenant-breaking state, and that they will take the necessary steps to afford passage through their territory to the forces of any members of the League which are co-operating to protect the covenants of the League.

"Any member of the League, which has violated any covenant of the League, may be declared to be no longer a member of the League by a vote of the Council concurred in by the representatives of all the other members of the League represented thereon."

Further, in the event of a dispute between a member of the League and a State which is not a member, the latter shall be invited to accept the obligations of membership for the purpose of the dispute and, if it accepts, the question will be enquired into as in the case where the disputants are both members. If, on the other hand, this State refuses to accept the obligations of the Covenant for the purposes of the dispute and shall resort to war against a member of the League the provisions of Article XVI will be applied. If both parties to the dispute refuse to accept the obligations of the Covenant, the Council of the League may take measures to prevent hostilities and to produce a settlement of the dispute.

The most important obligations of our membership of the League of Nations can therefore be summarised as follows :—

- (a) We, with all the other signatories, are definitely bound to submit all disputes in which we may be involved, and which are likely to lead to war, to arbitration, judicial settlement or to enquiry by the Council of the League.¹
- (b) We are bound to support the League to an unlimited extent in using the means of economic pressure referred to in Article XVI.
- (c) We are not bound to supply a military or naval force to support the League in a public war against some breaker of the Covenant. A contribution of naval and military force can only be *recommended* to us by the League Council.

*A General
Summary
of Conclu-
sion*

THE LOCARNO TREATIES

The second important stage in the making of treaties aiming at the prevention of war was the group of Locarno Treaties, the terms of which are summarised on page 383.

One very important feature of these treaties is the fact that, though Great Britain was a signatory, the British Empire as a whole was not; and the subsequent adherence of the Dominions, should war arise in Western Europe, would be a matter for their consideration and decision.

By these treaties we, in common with Italy, guarantee the territorial *status quo* of the Franco-German and Belgian German frontiers as laid down in the Treaty of Versailles. Should one of these Powers attack or invade another, the Signatory Powers, including ourselves, will come immediately to the assistance of the aggrieved party, when the Council of the League declares that war has been made upon that party or that a breach of the demilitarisation clauses has been committed. If, however, the violation has been flagrant, and in the opinion of the Signatory Powers is "an unprovoked act of aggression," and, where also in their opinion "immediate action is necessary," without awaiting the decision of the League Council, the Signatory Powers will come to the assistance of the country which is the subject of aggression.

The Rhineland frontiers of Germany and France and the

¹See Note at conclusion of Appendix III.

frontier of Belgium are therefore made part of the frontiers of Great Britain for the purposes of military commitments, but the side on which Great Britain may be required to fight is indefinite and would depend on the Power first to make war or effect a breach of the demilitarised zone.

THE INTERNATIONAL TREATY FOR THE RENUNCIATION
OF WAR, 1928. (PACT OF PARIS.)

The third treaty of great importance is the Kellogg Treaty signed at Paris in August 1928, and now adhered to by all the important countries of the world. Its provisions and the reservations made, in signing it, by the various countries are quoted on page 385. This treaty denouncing war is unlike the Covenant of the League and the Locarno Pacts which provide guarantees against the employment of war for the private purposes of one Power. It has no provisions for this purpose. The right to make war under certain circumstances was, however, acknowledged in the correspondence prior to the signing of the Treaty. Thus, nothing in the Treaty is to be regarded as having any bearing on the Monroe Doctrine; the British Empire reserved the right to defending certain unspecified areas which are vital to the security of the Empire and which the Empire regards in the same light as the United States regards, by means of its Monroe Doctrine, great areas in the New World; and obligations entered into under the Covenant or the Locarno Treaties are not diminished by the Kellogg Pact.

The limitations of the Treaty are very obvious. Most wars in history have begun with a declaration on both sides that the belligerents were fighting in self-defence. The Monroe Doctrine is indefinite; its only interpreter is the United States, and it tends to increase in scope. The undefined areas, which the British Empire claims to regard in the same light as the United States regards the area over which the Monroe Doctrine holds sway, probably contain many of the unsettled lands of the East, such as Egypt, Persia and Afghanistan, which may, through internal disruption or external interference, give rise to serious international complications.

Further, the Treaty provides no sanction or penalties for

those countries which break it. At the suggestion therefore of the British delegation at the Assembly of the League in 1929, amendments to the Covenant are now under consideration which aim at bringing it in line with the Treaty of Paris, and thus closing the gaps in the Covenant which permit a resort to war (see Appendix III.)

NAVAL DISARMAMENT

The various political engagements referred to in the foregoing sections, if they have meant anything real, appear to have paved the way towards reductions of national armaments. In fact, the Covenant of the League expressly referred to such a reduction in Article 8, which reads, "The members of the League recognise that the maintenance of peace requires the reduction of national armaments to the lowest point consistent with national safety, and the enforcement by common action of international obligations. The Council, taking account of the geographical situation and circumstances of each state, shall formulate plans for such reduction for the consideration and action of the several Governments. Such plans shall be subject to reconsideration and revision at least every ten years...."

The first comprehensive attempt at a process of disarmament was made two years after the signing of the Covenant of the League at the Washington Conference in 1921 (November 1921 to February 1922). By the Five Power Naval Treaty the total and individual tonnage of capital ships and aircraft carriers, the individual tonnage of cruisers and the maximum calibre of guns to be carried on all these classes were agreed on by the British Empire, the United States, France, Italy and Japan. The chief provisions of this Treaty are summarised on pages 97 and 118, and a study of these provisions reveals the following significant features:—

*The
Washington
Conference
1921-1922*

- (a) Naval equality between the British Empire and the United States as regards capital ships and aircraft carriers was established in principle, and the Two Power Standard previously aimed at by the British Empire was consequently relinquished. In agreeing to this principle of

parity, the British Empire gave up a large actual advantage in tonnage and the United States relinquished a large potential advantage in ships under construction or projected.

- (b) Naval equality as regards capital ships and aircraft carriers between France and Italy was also established in principle.
- (c) Japan accepted a position by which her tonnage of capital ships and aircraft carriers was only $\frac{2}{3}$ of that of either the British Empire or the United States. Her inferiority in tonnage, however, was offset by the "Status Quo" agreement, which prevented other naval Powers from increasing their fortifications or establishing new bases within the area where Japanese Naval Power might be expected to be predominant in the Pacific Ocean.
- (d) No attempt was made in this treaty to establish any ratio or equality with reference to the total tonnages of cruisers, torpedo boat destroyers or submarines which each of the Five Powers might build, though a limit was placed on the tonnage and gun-power of individual cruisers, viz., no cruiser to be of more than 10,000 tons or carry guns larger than 8 inch.

*The Rome
Conference
of February
1924.*

An attempt was made by the League of Nations in 1924 to extend the method applied at the Washington Conference to the naval forces of other countries which owned capital ships (i.e., warships whose displacement exceeds 10,000 tons or which carry guns with a calibre exceeding 8 inches). The countries chiefly concerned were the U.S.S.R., Turkey, the Netherlands, Norway, Greece, Denmark, Chile and Argentina. A conference of experts was held at Rome, but came to no decision, owing chiefly to the attitude of the U.S.S.R. which demanded a tonnage of 400,000 tons for capital ships, or considerably more than that which had been allotted to Japan at the Washington Conference, and also proposed that the Black Sea and the Baltic should be closed to the warships of all Powers except the countries actually bordering those seas, and that the Straits of Korea should be demilitarised.

In the following year the sixth Assembly of the League of Nations took a further important step. It was realised

that, though the political situation of Europe was not ripe for any general measures of disarmament, much could be done in the way of clearing the way for it by settling technical details. They accordingly appointed in September, 1925, a "Preparatory Commission for the Disarmament Conference." *The Preparatory Commission for the Disarmament Conference, 1925* to deal with the technical questions which would be involved in a general disarmament conference. This commission has, since its inception, gathered a vast amount of material and has, at least, illustrated the great difficulty experienced in reconciling the conflicting views of experts. Questions such as whether total tonnage or tonnage by categories of ships should be taken as the method of comparison for naval armaments; whether naval, military and air armaments can be considered separately or must be considered in relation to each other; whether reservists should be included in calculating or limiting the strength of military forces are typical of the difficulties which have arisen.

The Washington Conference of 1921-1922, while devising a limitation of the total tonnage of capital ships and aircraft carriers left, as we have seen, the problem of limitations of the other categories of vessels to future settlement. Freedom to build as many cruisers as each of the Five Powers wished led in the ensuing years to a danger of competitive naval construction in these categories, and accordingly President Coolidge issued an invitation to Great Britain, France, Italy and Japan to join in a conference in 1927, which should have as its main aim the limitation of the categories of ships not provided for in the Washington Five Power Naval Treaty. *The Geneva Conference June, 1927*

The invitation was accepted by Great Britain and Japan, but was refused for various reasons by France and Italy, and the conference, which was held at Geneva from June to August, 1927, was thus handicapped at the outset by the refusal of two of the chief Naval Powers to attend as members.

It was rapidly discovered at the Conference that the views of the British and American delegates were so opposed on the subject of cruiser tonnage as to be difficult of reconciliation. The United States proposed that the 5 : 5 : 3 ratio, which had been applied to the total tonnage of capital ships and aircraft carriers, should be applied also to the other categories, and that the British Empire and the United States should

have 250,000 to 300,000 tons of cruisers, and Japan 150,000 to 180,000 tons. Great Britain, on the other hand, held the view that by reason of her insular position and absolute dependence of sea communications, she required more than the 25 to 30 cruisers suggested, and proposed therefore (a) a limitation of the number of 10,000 ton cruisers, and (b) an unlimited class of smaller vessels of not more than 7,500 tons with 6 inch guns. The American delegation in response to this suggestion, retorted that small cruisers were of no use to the United States, as that country did not possess the large number of bases and fuelling stations which the British Empire was fortunate in possessing, and that the only type of cruiser suitable to their needs was the 10,000 ton cruiser, which would be of "world radius." They therefore suggested that each Power should build the type of cruiser most suited to its individual needs within an aggregate tonnage to be decided. The implication that the United States might build say 30 ten thousand ton cruisers while the British Empire might build 40 seven thousand five hundred ton cruisers, was not acceptable to the British delegation, which quoted the experiences of Coronel and Falkland as showing the superiority of a few large cruisers to a number of small and lower gun-powered cruisers. Their view was that such an arrangement would produce not equality but inferiority for the British Empire.

These opposing points of view could not be reconciled and the Geneva Conference dissolved, having accomplished nothing in the way of agreement, having in some measure embittered for the time being Anglo-American relations, and given support to the view of many observers that the various Treaties signed since the war, ostensibly with the object of preventing war, had not produced any real change of heart with regard to military and naval ambitions.

*The London
Conference
1930*

During the following year it became evident, however, that both the United States and Great Britain had not relinquished hope of a greater measure of naval disarmament. The Kellogg Pact to renounce war as an instrument of policy was signed, and a process of further disarmament appeared to be a natural corollary. Conversations on the subject were maintained. The Prime Minister of Great Britain visited the United States in 1929 and it then became apparent that some measure of

compromise on the cruiser question was becoming less impossible. The other great Naval Powers were therefore invited to meet at a Conference in London in January 1930 to discuss naval disarmament. When this conference met it was quickly found that the protagonists in controversy were no longer the British Empire and the United States, but were now France and Italy.

Italy demanded parity with France in all classes of vessels on the grounds that she is dependent for a large proportion of her food supplies and raw materials on sources outside the Mediterranean, and that even if she had naval superiority in the Mediterranean she could be starved out by a blockade of the entrances by another Power. Further, she emphasised that her mercantile marine was nearly as large as that of France, and that her Navy would have to protect, in time of mobilisation, the passage homeward of the hundreds of thousands of Italian citizens living in North and South America.

France objected to conceding naval parity to Italy on the grounds that she has coast-lines on two seas, whereas Italy has only one sea to consider. She claimed therefore that the effect of naval parity would be to make Italy enormously superior to France in the Mediterranean. Further, it was pointed out that France depends in time of war on the French colonies in Africa for man power and materials, and for one third of the French Army which normally serves there. Naval parity between Italy and France might endanger the vital line of communication between France and Northern Africa, and give to Italy therefore a decisive advantage in time of war.

The London Naval Conference (1930) did not succeed in completely reconciling these divergent points of view. The Treaty of London (April, 1930), the chief provisions of which are summarised in Appendix III, succeeded, however, in establishing equality between the British Empire and the United States in torpedo-boat destroyers and submarines, in addition to the categories of capital ships and aircraft carriers already provided for by the Washington Treaty. With regard to cruisers, the United States obtained a superiority equivalent to 3 ten thousand ton cruisers, counterbalanced by a British superiority in

lighter cruisers and a slight British superiority in the aggregate tonnage of cruisers as a whole. Japan was allowed equality with both the British Empire and the United States in submarines, but agreed to restrict her tonnage of other categories to the figures quoted in Appendix III. This Treaty, however, left France and Italy free from any undertaking to maintain equality as between themselves, except in so far as they are already bound by the Washington Treaty to equality in capital ships and aircraft carriers. A safeguarding clause was inserted to enable the British Empire, the United States or Japan to increase their tonnage if some other Power should embark on new construction likely to threaten their safety.

THE USE OF SUBMARINES AS COMMERCE DESTROYERS

Attempts to abolish submarines as a naval weapon have not met with success, the opposition coming chiefly from France, which has held the view that the security of the short sea routes across the Mediterranean can best be ensured by submarines, aircraft and fast cruisers. When the question was raised at the Washington Conference in 1921, France therefore refused to accept a limitation of submarines except at a total of 90,000 tons or approximately three times their existing tonnage in that category ; and even the United States argued that they might be legitimately used against combatant ships and as scouts. A Five Power Treaty was, however, signed by the British Empire, the United States, France, Italy, and Japan against the use of submarines as commerce destroyers.

Unfortunately, this Treaty was not ratified by France, and consequently could not be regarded as binding on the other signatories. It, therefore, was desirable to review the question later.

This was done in the Treaty of London (1930), when the same Five Powers reasserted and more clearly defined their attitude towards submarines as commerce destroyers, affirming that this class of vessel, in common with all warships, must adhere to the rules of international law, and must not "sink or render incapable of navigation a merchant vessel, without

having first placed passengers, crew and ship's papers in a place of safety." A definition follows of what is meant by "a place of safety." "Ships' boats are not to be regarded as a place of safety, unless the safety of the passengers and crew is assured, in the existing sea and weather conditions, by the proximity of land, or the presence of another vessel which is in a position to take them on board."

THE USE OF GAS

In another section of the Five Power Treaty which prohibited the use of submarines as commerce destroyers, "the use in war of asphyxiating, poisonous or other gases and all analogous liquids, materials or devices having been justly condemned by the general opinion of the civilised world, and a prohibition of such use having been declared in Treaties to which a majority of the civilized Powers are parties, the Signatory Powers... declare their assent to such prohibition, agree to be bound thereby as between themselves, and invite all other civilised nations to adhere thereto."

As already observed, this Treaty was not ratified by France, and consequently did not become effective. In 1925, however, a Protocol in similar terms "for the Prohibition of the use in War of Asphyxiating, Poisonous and other Gases and of Bacteriological Methods of Warfare" was signed by many Powers. It has since been ratified by a large number of States, including Great Britain, France, Italy, Germany and the U.S.S.R. The United States and Japan have signed, but not yet ratified it.

THE FREEDOM OF THE SEAS

The problems of naval disarmament are closely connected with those of "the freedom of the seas."

Prior to the war, Great Britain signed, but did not ratify, the Declaration of London, which limited our treatment of enemy imports as follows :—

- (a) It debarred us from stopping any goods, not actually for war purposes, if consigned by way of a neutral port.
- (b) It debarred us from stopping any such goods, in any case, if destined for the civil population of any enemy state.

- (c) It debarred us absolutely from stopping the main raw materials of industry or foodstuffs.
- (d) It debarred us from stopping enemy exports, except by close blockade of his ports.

The experience of the war proved, however, that these limitations acted unfairly against us and could not be logically applied. It was found, for instance, that goods despatched to neutral ports were frequently reforwarded across a frontier to the enemy, and a system of rationing the imports of neutrals had therefore to be initiated. It was found, also, that goods for the civil population of the enemy released equal quantities for his naval and military forces. Further, the distinction between raw materials and military supplies could not be maintained; supplies of metals such as copper and nickel could not be logically distinguished from supplies of munitions for which these minerals were required. In fact, it was realised that the distinction between civil and military supplies had ceased to exist because there was no longer a real distinction between the civilian and the soldier in a war where all were engaged in the effort to win. An economic blockade of materials and foodstuffs was therefore initiated by both sides, and we prevented the neutral countries from re-exporting to the enemy by the system of rationing their imports which has been referred to.

This limitation of the trade of neutrals was not suffered gladly by them, but only under the compulsion of British naval power; and, since the war, the United States in particular, which, by reason of its isolated geographical situation, may assume that it will generally be a neutral, has felt that the naval supremacy of the British Empire might in a future war be applied against the great export trade of the United States. The demand for naval parity has probably been due, in no small measure, to this apprehension.

A reconciliation between the British point of view and the standpoint of neutral and continental countries is difficult because their problems are not identical. Great Britain, being an insular country, cannot hope, in time of war, to obtain supplies indirectly across a land frontier, from neutral countries. It is therefore at a disadvantage as contrasted

with continental countries ; and its chief weapon, in retaliation against a blockade of its sea traffic, is " a long distance blockade," affecting not merely the enemy's ports, but also the imports of all neutral countries trading with the enemy.

It may be observed that if the Covenant of the League is scrupulously observed, then there will be no neutrals in a future war except those countries which have not signed the Covenant ; but, unfortunately, the non-signatories of the Covenant include two of the greatest producers of raw materials and foodstuffs in the world, the United States and Russia, which between them control a large part of the petroleum resources, and the situation with regard to these two countries in the case of an economic blockade maintained by the members of the League under Article XVI would therefore be extremely critical.

It may be added that it is difficult to see how sea power and the freedom of the seas can be reconciled. Freedom for an enemy country to obtain from oversea sources many of the staples of existence and industry directly, and most of the necessities of war indirectly, would blunt the naval weapon, and it appears probable that countries like the United States, if belligerents, would find it difficult to refrain from the seizure of ships and cargoes destined directly or indirectly for the enemy, in spite of a theoretical allegiance to the Doctrine of the Freedom of the Seas.

APPENDIX I

NOTES ON THE CONSTITUTION OF VARIOUS BRITISH DOMINIONS AND COLONIES.

CLASSIFICATION.

I.—The self-governing Dominions, which fall constitutionally into two groups :—

- (i) Dominion of Canada, Dominion of New Zealand, Union of South Africa, Irish Free State, Newfoundland.
- (ii) The Australian Commonwealth and its six component States : New South Wales, Victoria, Queensland, South Australia, Western Australia, Tasmania. (Northern and Central Australia, Norfolk Island, and Papua are administered by the Commonwealth.)

II.—Southern Rhodesia, which possesses responsible government subject to reservations as to the alteration of the constitution and of certain powers with regard to native administration which are reserved to the High Commissioner for South Africa.

III.—Malta, which possesses responsible government as regards its internal affairs. In matters of Imperial concern, laws are enacted by the Governor, the administration is carried on by him with the advice of a Nominated Council of Officials and subject to the control of the Secretary of State, and the Crown has also the power of legislating by Order in Council.

IV.—Colonies not possessing responsible government, in which the administration is carried on by public officers under the control of the Secretary of State for the Colonies, and Protectorates similarly controlled.

- (i) Colonies possessing an Elected House of Assembly and a nominated Legislative Council :—
 - Bahamas, Bermuda.
 - Barbados,
- (ii) Colonies possessing a partly-elected Legislative Council, the constitution of which does not provide for an official majority :—

British Guiana, Cyprus.
Ceylon.¹

- (iii) Colonies and Protectorates possessing a partly-elected Legislative Council, the constitution of which provides for an official majority :

Fiji,	Sierra Leone (Colony
Grenada,	and Protectorate),
Gold Coast,	St. Lucia,
Jamaica,	St. Vincent,
Kenya,	Straits Settlements,
Leeward Islands,	Trinidad,
Mauritius,	Northern Rhodesia.
Nigeria (Colony and	
Protectorate),	

The Legislative Council of Kenya has power to legislate for the Kenya Protectorate.

- (iv) Colonies and Protectorates possessing a Legislative Council nominated by the Crown :—

British Honduras,	Nyasaland Protectorate,
Falkland Islands,	Seychelles,
Gambia,	Uganda Protectorate,
Hong Kong,	Zanzibar.

In all the above Councils, except British Honduras, the constitution provides for an official majority.

The Legislative Council of Gambia has power to legislate for the Gambia Protectorate.

- (v) Colonies and Protectorates without a Legislative Council :

Aden,	St. Helena,
Ashanti,	Somaliland,
British Solomon Islands	Swaziland,
Protectorate,	Islands included under the
Basutoland,	Western Pacific High Com-
Bechuanaland Protector-	mission.
ate,	Gilbert and Ellice Islands.
Gibraltar,	
Northern Territories of	
the Gold Coast,	

In all these Colonies and Protectorates, except Bahamas, Barbados, Bermuda, British Honduras, and the Leeward Islands, the Crown has the power of legislating by Order in Council.

¹ In 1928 Lord Donoughmore visited Ceylon and later presented a report on its Government. After much discussion the provisions of this report were accepted by the Ceylon Legislative Council. The administration will in future be carried out by Committees of the Council who will be responsible for separate subjects.

(vi) Mandates.

- (a) Palestine. The Palestine Order in Council 1922 provides for a partly elected Legislative Council, the constitution of which does not provide for an official majority. This part of the Order has been temporarily suspended (1923), and pending the actual establishment of a Legislative Council, legislation is effected by ordinance by the High Commissioner with the assistance of an Advisory Council consisting of officials.
- (b) Tanganyika Territory in which the Legislative Council is nominated.
- (c) British Cameroons of which the northern parts are legislated for by the Governor of Nigeria, and the southern parts by the Governor and Legislative Council of Nigeria.
- (d) British sphere of Togoland which is legislated for by the Governor of the Gold Coast.

APPENDIX II

THE GOVERNMENT OF THE DOMINIONS AND INDIA

CANADA

The British North America Act (1867) formed the provinces of Ontario, Quebec, Nova Scotia and New Brunswick into one self-governing Dominion. Manitoba was added as a province in 1870 ; British Columbia in 1871 ; Prince Edward Island in 1873, and Saskatchewan and Alberta in 1905. There are thus nine provinces in the Dominion of Canada, as well as the Territories of the Yukon and North West, which have not yet attained the status of provinces.

The seat of Dominion Government is Ottawa.

THE CENTRAL GOVERNMENT OF THE DOMINION.

(1) The executive power is vested in the Crown, represented by the Governor-General, appointed by and acting on behalf of the King, who is assisted by a Committee of the Privy Council or Cabinet, formed of the principal members of the Government in power.

(2) The legislative power is vested in a Parliament, consisting of the King or Governor-General, an Upper House—known as the Senate—and a House of Commons. There must be a session of this Parliament at least once a year. Money votes originate in the House of Commons, having first been outlined in the King's or Governor-General's address.

The use of the English and French languages is permitted in Parliament.

The Senate.

Senators are nominated by the Crown, *i.e.*, by the Government of the day, for life, from the various Provinces (Ontario, 24 ; Quebec, 24 ; Western Provinces, 24). They must be over 30 years of age, natural-born or naturalised citizens, and resident in the Provinces for which appointed. There is a property qualification of 4,000 dollars, and members are paid at the rate of 2,500 dollars per annum each. Bills other than money bills may be introduced in the Senate.

The House of Commons.

The members of the House of Commons are elected by ballot on a liberal franchise. There is no property qualification for members. The number allotted to each Province is based on that of Quebec, which always remains 65; the other Provinces having a proportional number according to their population at each census. The term of the Parliament is five years, unless dissolved sooner.

PROVINCIAL GOVERNMENTS.

Each Province has an elected Legislative Assembly, and in Quebec and Nova Scotia there is also a Legislative Council, or Second Chamber. The head of the executive in Provincial Governments is the Lieutenant-Governor of the Province, who is appointed by the Governor-General of the Dominion, paid by the Dominion, and holds office for five years.

THE SCOPE OF CENTRAL AND PROVINCIAL GOVERNMENTS.

The Central or Dominion Parliament has power over all matters not definitely assigned to Provincial Legislatures (compare Australian Constitution). It controls everything not of purely local interest, such as public finances, postal services, currency, defence, etc. The Provincial Governments control the matters definitely assigned to them, such as Provincial loans, local works, education, hospitals, gaols, etc.

TERRITORIES.

The territories of Yukon and North West are very sparsely inhabited, and are administered by a Commissioner and Council of Four, appointed by the Governor-General in Council.

NEW ZEALAND

The Colony of New Zealand became by royal proclamation, in 1907, the Dominion of New Zealand. Its Government consists of a Governor-General, as head of the executive, a Legislative Council or Upper House, and a House of Representatives. The Legislative Council consists of 38 nominated members but provision has been made for it later to consist of 40 elected European members, and not more than three Maori members, appointed by the Governor-General. The Lower House, or House of Representatives, is chosen by electors on a liberal franchise, and includes four Maori members elected by the Maori part of the population.

UNION OF SOUTH AFRICA

The Union of South Africa was constituted under the South Africa Act (1909), and consisted of the provinces known as the Cape of Good Hope Province, Natal, the Transvaal and the

Orange Free State. The Executive power is in the hands of the Governor-General, and an Executive Council, of which the members are chosen and summoned by him. They are—as in the case of the British Cabinet—the principal members of the Government in power. The Legislature consists of a Senate or Upper House, and the House of Assembly. The Senate consists of 40 members, and is partly nominated and partly elected. The House of Assembly is completely elected. Members of both houses must be British subjects of European descent. In the Transvaal and Orange Free State the franchise is restricted to whites; in Natal a native can obtain a vote, but only under difficult conditions. In the Cape Province he can vote if he has a certain property qualification, and can write his name.

Pretoria is the capital and seat of Executive Government of the Union. Cape Town is the seat of the Legislature.

NEWFOUNDLAND

The Executive Government of Newfoundland (including Labrador) consists of a Governor, assisted by a responsible Executive Council or Cabinet, over which the Governor presides. The Legislature has two houses, an Upper House or Legislative Council and a House of Assembly, elected by ballot on a manhood suffrage.

THE COMMONWEALTH OF AUSTRALIA

The constitution of the Commonwealth of Australia was granted by Act of Parliament, and came into force on the 1st January, 1901. It differs from the "unitarian" constitutions of the other Dominions, and is a federation consisting of the States of New South Wales, Victoria, Queensland, South Australia, Western Australia and Tasmania, to each of which great powers have been left.

THE FEDERAL GOVERNMENT.

The Central or Federal Governing body consists of:—

(1) The Governor-General, representing the Crown, assisted by a Committee or Cabinet formed of the principal members of the Government in power.

(2) A Senate to which each State, voting as a single electorate, sends six members.

(3) A House of Representatives, elected by 75 constituencies on adult suffrage. The House of Representatives must be dissolved at least each three years. The Senate can sit for six years, but half of its members must retire every three years. Money bills, cannot originate or be amended by the Senate. If the Houses disagree on any Bill and a deadlock ensues,

both are dissolved. If the new Houses again disagree on the same issue, they sit in one session, and a clear majority of the total number of both Houses decides.

THE POWER OF THE FEDERAL GOVERNMENT.

The Federal or Commonwealth Government deals with all matters relating to the world outside, or to more than one State, such as defence, postal services, railways, and inter-State commerce. There is a definite list of these matters and all subjects not mentioned therein are under the control of the State Governments. The result is that the various States have a large "residuary" power left to them.

STATE GOVERNMENTS.

The government of a State consists of :—

- (1) The Governor, appointed direct by the Crown.
- (2) A Legislative Council, nominated for life in New South Wales; elected in the other States, except in Queensland, where it was abolished in 1922.
- (3) A Legislative Assembly, elected by the votes of all adult residents, who are natural born or naturalised citizens.

THE TERRITORIES AND MANDATES.

The Territories, *i.e.*, the Northern Territory,¹ Norfolk Island and Papua, and the mandates given to the Commonwealth, are administered by the Federal Government.

THE IRISH FREE STATE

The constitution of the Irish Free State (Saorstát Eireann) which consists of the 26 counties of "Southern Ireland" was sanctioned by the Irish Free State Constitution Act (Dec. 1922). In this act were embodied the general principles arrived at in the Treaty between the British Government and Southern Ireland (Dec. 1921), and also the constitution recommended by a provisional Parliament of Southern Ireland which met in September, 1922.

The general principles referred to are as follows :—

- (1) Southern Ireland to have the same constitutional status as the other self-governing Dominions.
- (2) Its position in relation to the Imperial Parliament and Government to be that of the Dominion of Canada.

¹ When the Northern Territory is divided into Northern and Central Australia, new arrangements will be established for their administration.

- (3) The Irish Free State to undertake its own coast defence, but the defence by sea to be undertaken by the Imperial Forces, this provision to be reviewed at the end of five years. The Irish Free State to afford in time of war or strained relations with other powers such harbour or other facilities as may be necessary. The Irish Defence Force not to exceed such proportion to the Military Forces of Great Britain as the proportion which exists between the population of the two countries. The Irish Free State to be free to establish wireless stations and submarine cables only with the approval of the British Government, and the latter to be free to land additional cables or erect further wireless stations if found desirable.
- (4) ¹/₂ The share of the Free State in the debt of the United Kingdom to be determined by a commission.
- (5) The boundary between "Southern Ireland" and "Northern Ireland" to be determined by a commission which shall delimit it "in accordance with the wishes of the inhabitants so far as may be compatible with economic and geographic conditions."

The Government consists of

- (a) A Governor-General appointed by the Crown, who has the same powers, including the power of veto, as are exercised by the Governor-General of Canada.
- (b) A Legislature (Oireachtas) consisting of two houses, the Chamber of Deputies (Dáil Eireann) and a senate (Seanad Eireann). All members of both chambers must take an oath of fidelity to the constitution and the King.

The *Dáil* is elected on the principle of proportional representation by all citizens of 21 and over. The number of deputies is fixed on a population basis, and its normal life is four years.

The *Senate* consists of 60 members, one fourth of whom are elected every three years from a panel chosen by the two houses. Every citizen aged 30 or over who complies with all the prevailing electoral laws, has a vote in this election.

The Cabinet, known as the *Executive Council*, consists of not more than seven nor less than five ministers, of whom one is the President (*i.e.*, the Prime Minister). The President is nominated by the *Dáil* and he in turn nominates the other members of the council whose appointment must, however, be approved by the *Dáil*. The *Dáil* may also nominate other ministers, without seats on the council, but the total number of ministers in all must not exceed twelve.

NORTHERN IRELAND

By the Government of Ireland Act (1920) as amended by the Irish Free State Act (1922) a separate Government was established for "Northern Ireland" which consists of Antrim, Armagh, Down, Fermanagh, Londonderry and Tyrone and the Parliamentary Boroughs of Londonderry and Belfast.

The Government consists of

- (1) A Governor appointed by the Crown for six years.
- (2) A Senate of 24 elected members together with the Lord Mayors of Belfast and Londonderry.
- (3) A House of Commons of 52 members.
- (4) A Cabinet system similar to that of Great Britain and the Dominions.

The Parliament of Northern Ireland has no power over :—

- (a) Matters of Imperial concern.
- (b) "Reserved matters," *e.g.*, Postal Service, Post Office and Trustee Savings Banks, designs for stamps, registration of deeds, land purchase.

Northern Ireland continues to send 13 members to the British House of Commons, and so cannot be regarded as a Dominion.

THE GOVERNMENT OF INDIA

The Government of India does not come under the control of the Colonial Office, but of the Secretary of State for India, who is the head of the Indian Administration in Great Britain, and represents the supreme authority of the Imperial Parliament.

He is assisted and advised by a council of not less than eight nor more than twelve members appointed for five years of whom at least one half must be persons who have resided in India for ten years and did not leave that country more than five years previous to their appointment. The members of the council cannot sit in the British Parliament and two must be natives of India. The council has no executive authority except in relation to the appointment of British Officers in India, but as its members are all well acquainted with Indian affairs its advisory capacity in relation to the Secretary of State is of great importance.

THE CENTRAL INDIAN GOVERNMENT.

The Central Government of India consists of :—

(1) The Executive in civil and military affairs, which rests with the Governor-General and Viceroy, assisted by an Executive Council of eight members, including the Viceroy and the Commander-in-Chief. Each of the various departments of State such as Finance, Foreign and Political Affairs, Home Affairs, etc., is under the supervision of a member of the Executive Council.

(2) The Legislature, which by the Government of India Act 1919, consists of the Governor-General and :—

(a) A Council of State, partly elected and partly nominated.

(b) A Legislative Assembly, mainly elected, but with a small nominated portion.

No official majority is provided for in either of these Chambers, but the Governor-General is given the power to reject adverse votes, to secure necessary legislation in emergencies, to return bills for reconsideration, and exercise a veto over all legislation affecting the peace or safety of India. The Budget is submitted to both Chambers, and is voted on by the Legislative Assembly. Should the Legislative Assembly refuse to assent or should it make reductions, the Governor-General in Council may authorise expenditure which he considers necessary for the peace and safety of British India.

PROVINCIAL GOVERNMENTS AND ADMINISTRATIONS

The supreme Central Government is given authority over certain defined subjects, such as defence, political relations, etc. Other administrative matters classified "provincial" have been handed over by the Act (1919) to the various Provincial Governments. These matters are further divided in the case of the nine Major or Governor's Provinces—Madras, Bengal, Bombay, the United Provinces, Behar and Orissa, the Central Provinces, Punjab, Assam and Burma—into "reserved" and "transferred" subjects.

The responsibility for "reserved" subjects remains with the Governor, and an Executive Council. For the "transferred" subjects it rests with the Governor and the Ministers of the Provincial Government, who are chosen from among the elected members of a Legislative Council. These ministers are directly responsible to the Legislative Council for the administration of the "transferred" subjects, but can be over-ruled by the Governor, if he considers their policy inconsistent with the discharge of his duties. The Legislative Councils have an elected majority, and are generally elected

for three years. The Governor has the usual powers of veto, and can secure legislation necessary for the peace and safety of the Province.

The Government of India Act (1919) which embodied these reforms (the Montagu-Chelmsford Reforms) provided for the appointment of a Royal Commission within 10 years to ascertain whether the working of the reforms would warrant a further degree of responsible government. This Commission (the Simon Commission) was duly appointed and visited India in 1928 and 1929, and published its report and recommendations in June, 1930.

The most important of these recommendations were briefly as follows :—

(a) *Provincial autonomy for each of the major provinces of British India.* The government of a Province should consist of a Governor, an elected Legislative Council and a Cabinet of Ministers responsible to the Legislative Council. There should be no "reserved subjects." Even law and order in the Province should be entrusted to a Minister. But the Governor should have overriding powers to preserve safety and tranquillity.

(b) *A Federal Central Government should be aimed at, in which the Provinces of British India and the Indian States could eventually be brought together.*

(c) *Defence.* The defence of India concerns the whole Empire. *The responsibility for the Army in India should therefore become an obligation of the Imperial Government.*

Nevertheless, the promise to go forward with the Indianisation of the Indian Army should be honoured.

(d) *Burma should be separated from India.*

APPENDIX III

IMPORTANT TREATIES

A. TREATIES RELATING TO FREEDOM OF PASSAGE THROUGH WATERWAYS OF INTERNATIONAL IMPORTANCE

Convention between Great Britain, Austria-Hungary, *The Suez* France, Germany, Italy, Netherlands, Russia, Spain and *Canal* Turkey, Constantinople, 1888.

"*Article 1.* The Suez Maritime Canal shall always be free and open, in time of war as in time of peace, to every vessel of commerce or of war, without distinction of flag. Consequently, the High Contracting Parties agree not in any way to interfere with the free use of the Canal, in time of war as in time of peace.

The canal shall never be subjected to the exercise of the right of blockade.

Article 2. . . . The High Contracting Parties agree that no right of war, no act of hostility, nor any act having for its object to obstruct the free navigation of the canal shall be committed in the canal and its ports of access, as well as within a radius of three marine miles from those ports, even though the Ottoman Empire should be one of the belligerent Powers.

Vessels of war of belligerents shall not revictual nor take in stores in the canal and its ports of access, except in so far as may be strictly necessary. . . .

Article 5. In time of war belligerent powers shall not disembark nor embark within the canal and its ports of access either troops, munitions or materials of war. . . .

Article 7.—The Powers shall not keep any vessel of war on the waters of the canal (including Lake Timsah and the Bitter Lakes).

Nevertheless, they may station vessels of war in the ports of access of Ports Said and Suez, the number of which shall not exceed two for each power. This right shall not be exercised by belligerents."

The Isthmian Canal Convention (commonly called the Hay-Pauncefote Treaty), 1901.

"Article 3. The United States adopts as the basis of the neutralisation of such ship canal the following rules substantially as embodied in the Convention of Constantinople . . . for the free navigation of the Suez Canal. . . ."

(The rules which follow are substantially as given above in the Suez Canal Convention.)

Convention between France and Spain with regard to Morocco. Madrid, 1912.

"Article 6. In order to ensure freedom of passage through the Straits of Gibraltar, the two Governments agree not to permit the construction of fortifications or strategical works of any kind on the part of the Moroccan coast which is referred to in Article 7 of the Franco-English Declaration of April 8th, 1904. . . (viz., the part having shores on the Straits)."

The Treaty of Versailles, 1919.

"Article 195. In order to ensure free passage into the Baltic to all nations, Germany shall not erect any fortifications in the area comprised between Latitudes 55° 27' N. and 54° N. and Long 9° E. and Long. 16° E., nor install any guns commanding the maritime routes between the North Sea and Baltic. The fortifications now existing in this area shall be demolished and the guns removed."

The Treaty of Lausanne, 1923.

The Convention with regard to the Régime of the Straits contains the following provisions:—

1. Complete freedom of navigation to merchant vessels and warships, both in peace and war, provided Turkey is not a belligerent, and with certain restrictions regarding the number of warships which may pass through the Straits.

2. A Straits commission consisting of a President who is a Turk and one member of each Treaty Power is set up and given the special task of seeing that the provisions relating to the passage of ships are carried out.

3. If Turkey is a belligerent the Straits are to be free to neutrals, subject to Turkey's right to search for contraband. Turkey, under such circumstances has full power to take measures to prevent enemy vessels from using the Straits.

4. Both shores of the Dardanelles and the Bosphorus are demilitarised and no fortifications or permanent garrisons are

allowed except the Gendarmerie and a force of 12,000 in Constantinople.

5. No mines or fixed torpedo tubes capable of causing interference with the passage of vessels are to be allowed in the waters of the Dardanelles, Bosphorus, or Sea of Marmora.

6. Turkey may, however, transport armed forces through demilitarised zones and her warships may anchor within their territorial waters. There is no restriction to Turkish aircraft flying over the demilitarised zones nor is there any restriction as regards the setting up of systems of observation and communication.

The parties to this Convention relating to the Régime of the Straits are Great Britain, France, Italy, Japan, Bulgaria, Greece, Rumania and Turkey, and by Article XVIII of the Convention they incur the following obligation :—

“Should the freedom of navigation of the Straits or the security of the demilitarized zones be imperilled by a violation of the provisions relating to the freedom of passage or by a surprise attack or some act of war or threat of war the High Contracting Parties, and, in any case, France, Great Britain, Italy and Japan, acting in conjunction, will meet such a violation, attack or other act of war or threat of war by all the means that the Council of the League of Nations may decide for this purpose.”

B. THE LOCARNO TREATIES.

The Locarno Agreements concluded in 1925 aimed at :—

- (1) Stabilising the frontiers fixed by the Treaty of Versailles.
- (2) Arranging modes by which disputes among most of the Western European Powers can be settled.
- (3) Preventing aggression on the part of one power, by the threat of united action against the aggressor.

They consist of :—

- (a) The Security Pact between Germany, Belgium, France Great Britain and Italy.
- (b) Arbitration conventions between Germany on the one hand and Belgium, France, Poland and Czecho-Slovakia on the other.
- (c) Guarantee agreements between France and Poland and between France and Czecho-Slovakia.

The Security Pact :

The chief terms of the Security Pact are as follows :—

- (1) The contracting powers agree to maintain the frontiers fixed at the Treaty of Versailles, and to observe the demilitarised zones fixed therein.
- (2) Germany and Belgium and Germany and France mutually undertake not to attack, invade or go to war against each other.
- (3) They agree to submit all questions of serious difference to judicial decision. Failing agreement by these means such questions will be submitted to the League of Nations.
- (4) Should one of the contracting powers allege that a violation of the frontiers fixed in the Treaty of Versailles, or of clause (2) above has taken place, it shall bring the question before the League of Nations. The Council of the League will decide and notify the other Powers who will then come to the assistance of the power against whom the aggression has taken place.
- (5) Should there not be time to await the decision of the League the other powers can act at once, but the League of Nations will eventually decide and the contracting powers agree to accept its decision.
- (6) This treaty imposes no obligation on any British Dominion or on India, unless the governments of such Dominions or India accept it.¹

The Arbitration Agreements.

The arbitration agreements lay down the methods (*i.e.*, judicial decision or conciliation commissions) by which disputes shall be judged.

The Treaty of Guarantee.

By treaties between France and Poland, and France and Czecho-Slovakia it is agreed that in the event of Germany failing to carry out her undertakings given in the Security Pact or in the Arbitration Agreements either power agrees to come immediately to the aid of the other ("if such failure is accompanied by an unprovoked recourse to arms").

¹ The terms of the Locarno Pact were later explained and discussed at the Imperial Conference 1926. The reference to it in the report of the Conference is as follows:—"It then became clear that, from the standpoint of all the Dominions and of India, there was complete approval of the manner in which the negotiations had been conducted and brought to so successful a conclusion."

C. THE INTERNATIONAL TREATY FOR THE RENUNCIATION
OF WAR AS AN INSTRUMENT OF NATIONAL POLICY (THE
KELLOGG PACT)

1. The High Contracting Parties solemnly declare in the names of their respective peoples that they condemn recourse to war for the solution of international controversies, and renounce it as an instrument of national policy in their relations with one another.

2. The High Contracting Parties agree that the settlement or solution of all disputes of whatever nature or of whatever origin they may be which may arise among them shall never be sought except by pacific means.

3. The present Treaty . . . shall take effect as between them as soon as all their several instruments of ratification shall have been deposited at Washington. . . .

Signed at Paris, August 27th, 1928, by the British Empire, U.S.A., France, Italy, Germany, Japan, Poland, Belgium and Czecho-Slovakia and subsequently signed by practically all the other self-governing countries of the world.

The various countries who signed reserved the right of self-defence. The United States declared the Monroe Doctrine to be outside the scope of the Treaty and the British Empire, prior to signing, made the following reservations:—

- (a) The right of self defence is inalienable.
- (b) Violation of the undertaking by one party would free the remaining parties from the obligation to observe its terms in respect of the treaty-breaking State.
- (c) Commitments under the Covenant of the League of Nations and the Locarno Treaties must be carried out.
- (d) "The language of Article 1 . . . renders it desirable that I should remind your Excellency that there are certain regions of the world the welfare and integrity of which constitute a special and vital interest for our peace and safety. His Majesty's Government have been at pains to make it clear in the past that interference with these regions cannot be suffered. Their protection against attack is to the British Empire a measure of self defence. It must be clearly understood that his Majesty's Government in Great Britain accept the new Treaty upon the distinct understanding that it does not prejudice their freedom of action in this respect. The Government of the United States have comparable interests any disregard of which by a foreign Power they have declared that they would regard as an unfriendly act. His

Majesty's Government believe therefore, that in defining their position they are expressing the intention and meaning of the United States Government."

D. THE LONDON NAVAL DISARMAMENT TREATY (1930)

The London Naval Disarmament Treaty signed on April 22nd, 1930, but not yet ratified by the Signatory Powers, consists of five parts. Parts I, II, IV and V were signed by the British Empire, the United States, France, Italy and Japan; Part III was signed only by the British Empire, the United States and Japan.

Part I deals with capital ships and aircraft carriers. The Powers bound themselves not to lay down the capital ships which, by the Washington Treaty, they were empowered to build in replacement of others, between 1931 and 1936 inclusive. This undertaking applies to ten capital ships which might have been built by the British Empire; ten by the United States; three by France; three by Italy, and six by Japan. Ships accidentally lost or destroyed may, however, be replaced. France and Italy may each lay down 70,000 tons in capital ships, to make up for the two 35,000 ton vessels which each might have laid down in 1927 and 1929, but did not, in fact, begin to build.

The Five Signatory Powers also agreed that no aircraft carrier of 10,000 tons or less, carrying a gun heavier than 6.1 inch, shall be acquired or constructed by them.

In Part II, it is agreed that no submarine of over 2,000 tons, or with a gun larger than a 5.1 inch, shall be acquired or constructed. Each Power may, however, retain, build or acquire a maximum of three submarines not exceeding 2,800 tons, and not carrying guns larger than 6.1 inch. France may retain, within this number, one submarine of 2,880 tons already launched, which carries 8 inch guns.

Part IV (Article 22) asserts that "submarines must conform to the rules of international law to which surface vessels are subject." It goes on to say, "In particular, except in the case of persistent refusal to stop on being duly summoned, or of active resistance to visit and search, a warship, whether surface vessel or submarine, may not sink or render incapable of navigation a merchant vessel without having first placed passengers, crew and ship's papers in a place of safety. For this purpose the ship's boats are not to be regarded as a place of safety unless the safety of the passengers and crew is assured, in the existing sea and weather conditions, by the proximity of land, or the presence of another vessel which is in a position to take them on board."

Part V declares that the Treaty shall remain in force until December 31st, 1936.

Part III, which is the Three Power Pact, signed only by the British Empire, the United States and Japan limits the strength of cruisers, destroyers and submarines for these three Powers to the following tonnages :—

	<i>British Commonwealth of Nations</i>	<i>U.S.A.</i>	<i>Japan</i>
	Tons	Tons	Tons
Cruisers—Guns heavier than 6·1 inch	146,800	180,000	108,400
Cruisers—Guns lighter than than 6·1 inch ..	192,200	143,500	100,450
Destroyers	150,000	150,000	105,500
Submarines	52,700	52,700	52,700

The maximum number of heavy cruisers shall therefore be :

The British Empire ..	15
The United States ..	18
Japan	12

but the British Empire is compensated for the inferiority in heavy cruisers by a superiority in lighter cruisers and the slightly larger aggregate cruiser tonnage evident from the foregoing table. The United States has the option, however, of building lighter cruisers instead of the three heavy cruisers, after the first fifteen have been built, and, under these circumstances, will be entitled to exact parity in tons with the British Empire in each category.

A safeguarding clause is inserted, which provides that if the requirements of the national security of any of the three signatories are, in the opinion of that party, materially affected by new construction by any Power which has not signed this section of the Treaty, the Power affected shall notify the two other Powers as to the increase to be made in its own tonnage, specifying the proposed increases and the reasons therefor. It shall then be entitled to make such increase and the two other Powers shall also be entitled to make a proportionate increase.

E. A NOTE ON PROPOSED AMENDMENTS TO THE COVENANT OF THE LEAGUE TO BRING IT INTO LINE WITH THE TREATY OF PARIS.

The Covenant of the League of Nations provides the following means of settlement of international disputes likely to lead to a rupture :—

- (1) Under Article 13, Arbitration or Judicial Decision by the Permanent Court of International Justice. This is for certain classes of dispute, generally of a legal nature, where both parties of the dispute agree to such a procedure, and by such agreement bind themselves to carry out any award or decision that may be so rendered.
- (2) Under Article 15, submission of the dispute to the Council of the League, which *shall* endeavour to effect a settlement. If the Council fails to effect a settlement, it shall either unanimously, or by a majority vote, publish a report and make recommendations "which are deemed just and proper."

It is to be noticed that the parties to the dispute are under no obligation to accept these recommendations. If they are made by the Council unanimously (except by the representatives of one or more of the parties concerned) the moral obligation to accept them would be very strong, and the members of the League bind themselves not to go to war with any party which complies with the recommendations. If, however, the Council's report is not unanimous "the members of the League reserve to themselves the right to take such action as they" (individually) "consider necessary."

- (3) The door is left open under the Covenant for resort to war for the ultimate settlement of international disputes if other means provided for in the Covenant have failed.

This ultimate resort to war is forbidden by the Pact of Paris, which has been ratified by practically all members of the League. The Pact of Paris, however, provides no sanctions or penalties for those who break it. At the suggestion, therefore, of the British delegation at the League Assembly in 1929, the League now has under consideration amendments to the Covenant to bring it into line with the Pact of Paris, and to close the gaps in the Covenant which permit resort to war.

By the amendments at present under consideration, not only is the resort to war prohibited, but it is proposed to make the recommendations of the Council, arrived at unanimously (except for one or more parties to the dispute) binding, and to give the Council power to apply sanctions to enforce acceptance of its recommendations. In other words, the object is to replace war by a decision of the Council for the final settlement of disputes.

The effect of this would be transform the Council from an advisory and conciliatory body into a judicial body, with power to enforce its own decisions. It would also appreciably increase the obligations and commitments of members of the League under the Covenant.

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